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VOL. XII.] JANUARY, 1904. [No. 133.

THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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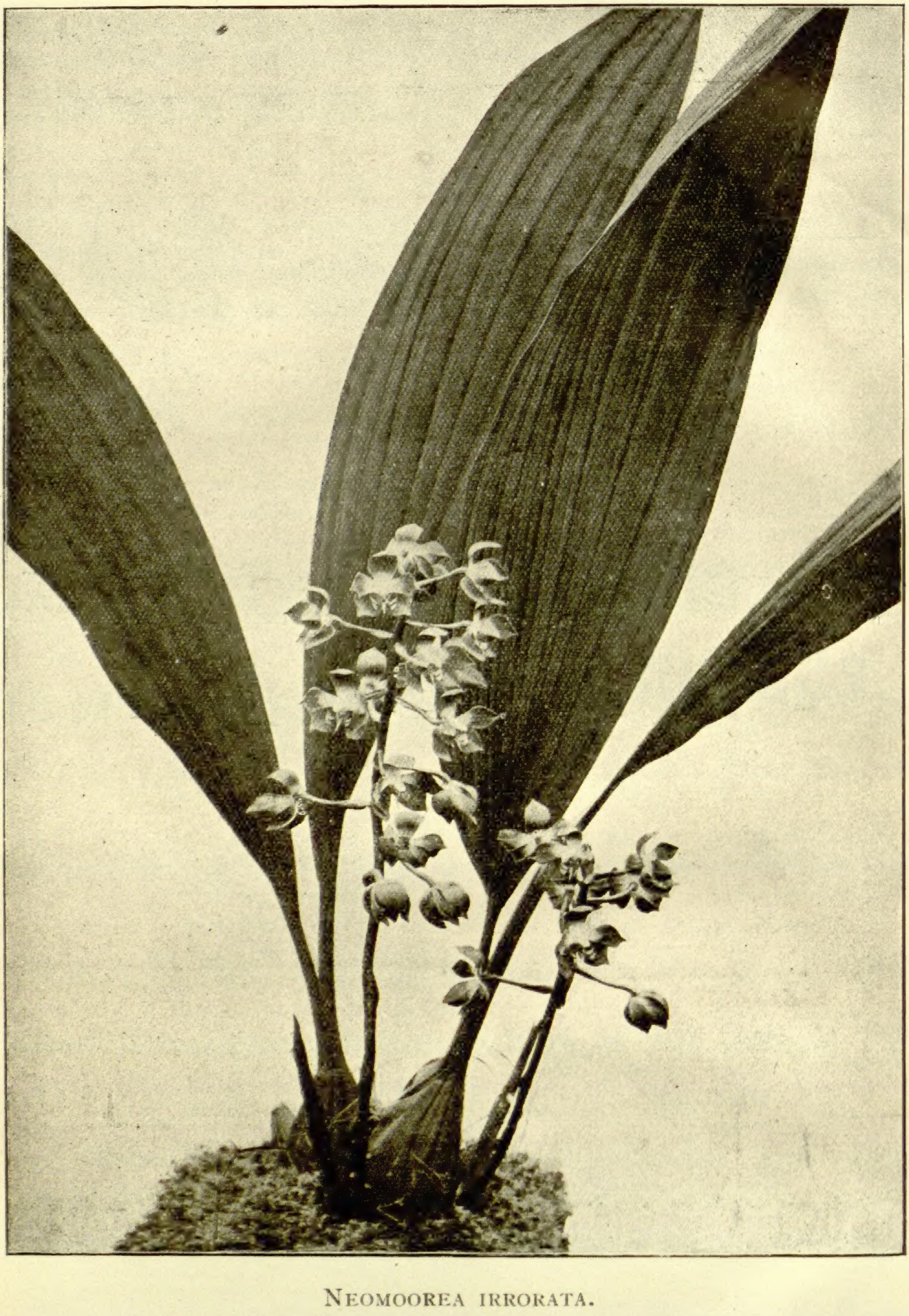

NEOMOOREA IRRORATA.

See page 356.

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THE

ORCHID REVIEW

An Illustrated Monthly Journal

DEVOTED TO ORCHIDOLOGY

VOLUME XII

1904

London:
MARSHALL BROTHERS, KESWICK HOUSE, PATERNOSTER ROW, E.C.

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Mo. Bot. Garden
1906

"Call the vales and bid them hither cast
Their bells and flowerets of a thousand hues."

"Strange shapes and wondrous mysteries."

"Orchids ask more riddles than ever the Sphinx
proposed to the travellers."

THE ORCHID REVIEW.

VOL. XII.] *JANUARY*, 1904. [No. 133.

EVENTS OF 1903.

THE past year has been one of the wettest ever remembered—perhaps the wettest since records were kept—and generally disastrous to horticulture outside, but it is doubtful whether Orchids have suffered to any great extent by the climatic conditions. The reduced amount of sunlight in the autumn probably retarded the ripening of the pseudobulbs somewhat, but good growths were made, and on the whole a moist season is favourable to Orchid culture, especially to Cool Orchids.

The year has not been marked by any striking event in the Orchid world, but it has been one of steady progress, and a number of interesting novelties have flowered, though these have been almost entirely raised in gardens.

EXHIBITIONS.

The great Quinquennial Exhibition at Ghent is always a noteworthy event, and on this occasion it brought together a magnificent display of Orchids, though there was little in the way of actual novelty except varieties of existing hybrids, some of which were shown in very fine condition. The magnificent group staged by Messrs. Peeters, of Brussels, which gained the premier award, will long be remembered for its uniform excellence. The weather, however, was wretched, and the Exhibition was opened in a blinding snow storm.

The two great exhibitions of the Royal Horticultural Society at the Temple and at Holland House were also marked by brilliant displays, and the usual fortnightly meetings have been quite up to the average, while the Manchester Orchid Society's meetings, and the Spring and Whitsuntide shows of the Manchester Royal Botanical and Horticultural Society, have been marked for the excellence of the Orchids exhibited.

NOVELTIES.

Imported novelties have been very few in number, and it is a long time since so few have been recorded in a season. Those which occur to us are Angræcum Rothschildianum, Dendrobium × Margaret, a supposed natural hybrid, and Bulbophyllum erythrostachyum. Among rarities, however,

may be mentioned the three remarkable species of the genus Chloræa, C. crispa, C. multiflora, and C. virescens, which were introduced from Chili by Mr. Elwes, and flowered at Kew. The two former have probably never before flowered in cultivation, and the first-named is very beautiful, and should be a notable acquisition to the ranks of terrestrial Orchids. Rodriguezia Batemanii also is an interesting re-introduction, and the remarkable Megaclinium platyrhachis has appeared in cultivation. Didymoplexis pallens is an interesting saphrophyte which, like the last-named, flowered in the Kew collection.

HYBRIDS.

Among hybrids a number of interesting novelties have appeared, and among them we may mention the handsome Cattleya × Roehrsiana, C. × Clarissa, C. × Claudian, C. × Katherinæ, C. × Tankervillei, and C. × St. Gilles, Brassocattleya × Pocahontas, Brassolælia × Rolfei, Brassocatlælia × Mackayi, Cymbidium × Lowgrinum, Lælio-cattleya × Hilda, Vanda × Maronæ, Phaius × Harold, and P. × Clive, the handsome Phaio-cymbidium × chardwarense (whose origin should be confirmed if possible), Dendrobium × Thwaitesiæ, and D. × clarense, Zygopetalum × Sanderi, Paphiopedilum × erubescens, P. × Omphale, P. × Persephone, P. × Violetta, and others of the genus, Epidendrum × Boundii, E. × kewense, Cynorchis × kewensis, Spathoglottis × kewensis, and various others, which have been exhibited at the various meetings. Of the three last mentioned it may be said that their names denote their place of origin. Odontoglossums are mentioned in the succeeding paragraph.

SEEDLING ODONTOGLOSSUMS.

Seedling Odontoglossums have engaged a great deal of attention during the year, and as evidence of the rapid progress now being made in this department it may be mentioned that no less than six First-class Certificates and seven Awards of Merit were given to these beautiful plants by the R.H.S. during the year. Most of them were varieties of previously recorded hybrids, but two were quite new, namely, O. × Bradshawiæ and O. × waltonense, and both gained First-class Certificates from the R.H.S. The latter was figured at page 49 of our last volume, and we may also allude to the remarkable group of six hundred seedlings in the collection of W. Thompson, Esq., figured at page 41. Odontoglossum × beardwoodiense is another interesting novelty which must not be overlooked. Numerous notes in our pages testify to the rapid progress now being made, and these may readily be found by means of the Index. It is quite evident that the difficulties formerly encountered have now been surmounted, and further developments may be anticipated in the near future.

CERTIFICATED ORCHIDS.

Thirty-three Orchids gained the award of a First-class Certificate from

the Royal Horticultural Society during the year, namely, ten Odontoglossums, seven Cattleyas, six Lælio-cattleyas, three Zygopetalums, two Dendrobiums, and one each of Cymbidium, Cypripedium, Phaius, Phaio-cymbidium, and Vanda. It is significant that twenty-two of these were hybrids of artificial origin, and three others natural hybrids, the remaining eight being varieties of natural species, half of which belonged to Odontoglossum crispum. Seventy-three others gained Awards of Merit, namely, twenty-four Odontoglossums, fifteen Cypripediums, eight each of Cattleya and Lælio-cattleya, seven Dendrobiums, three Phaius, two Cymbidiums, and one each of Brassocattleya, Epicattleya, Lælia, Masdevallia, Schomburgkia, and Vanda. They are further divisible into, artificial hybrids fifty-one, natural hybrids five, and varieties of natural species seventeen, eight of which belonged to Odontoglossum crispum. Ten Botanical Certificates were also awarded, none of these being to hybrids. The numerous awards of the Manchester Orchid Society can only be mentioned in passing.

USE OF LEAF-MOULD.

Further experience has been gained in the use of leaf-mould as an ingredient in the compost for Orchids, and opinions as to its merits are somewhat conflicting, though on the whole they are favourable, and we are inclined to think that the results which have proved disappointing have been chiefly due to the improper use of the material. Those growers who have used it rather as an addition to, than as a substitute for the old compost, seem to have been most successful, and what seems chiefly needed is experience as to the proper method of using it, and some additional care in watering the plants. We should like to have the experience of others on the subject.

MENDEL'S "LAWS" OF INHERITANCE.

Mendel's "Laws" of Inheritance have again received considerable attention in connection with hybrid Orchids, and two important papers by Captain Hurst have been dealt with in considerable detail in our pages. In this connection must be mentioned the remarkable series of thirty varieties of Paphiopedilum × Hera, figured at pages 71 to 73 in our last volume.

LOSSES DURING THE YEAR.

Among the losses to Orchidology during the year must be mentioned M. Godefroy-Lebeuf, of Argenteuil, founder of *L'Orchidophile*, and well known as an importer and grower of Orchids, and Hermann Wendland of Herrenhausen, who had brought together a fine miscellaneous collection of Orchids, including many botanical rarities.

The year 1903 has not vanished without leaving its mark upon Orchidology, and there are auguries of further advances in the coming year.

May each of our readers contribute something to the cause of progress. In conclusion, we wish each and all "A Happy New Year," and increased prosperity to their collections.

MODERN PROGRESS IN HORTICULTURE.—In a paper bearing the above title, read before the Horticultural Club by Mr. F. W. Burbidge, M.A., V.M.H., and published in the last issue of the *Journal of the Royal Horticultural Society*, we find the following reference to Orchids (p. 137):—

"Amongst the most potent factors of change and progress in nursery management. so far as imported Orchids, bulbs, &c., are concerned, have been the public or auction sales held in London, Liverpool, Manchester, Birmingham, and other large towns. The expenses and risks of collecting abroad and the lowering of prices consequent on competition both at home and on the Continent, as combined with the effects of auction sales, have revolutionised the nursery trade formerly done in these exotics and other plants.

"The price of all nursery stock is lowered sooner or later by auction sales; but in the case of trees and shrubs, hardy plants, and Dutch flower-roots the effects are not so apparent, as the widespread public demand is so enormous. In the case of Orchids, however, for which the demand is comparatively limited, the effects were more immediately seen. As a consequence Orchid collecting has been left in the hands of those who import expressly for sales by auction, and one result has been that those who can pay for glass houses and fuel, and afford the necessary attention and labour, may grow Orchids if they care to do so. An enormous influx of new and beautiful home-raised seedlings and hybrid Orchids is another result that has been encouraged by auction sales. In other words, new Orchids are now being raised by the thousand under glass roofs beneath an English sky. In this way the nurseryman can protect himself and his creations."

DECORATIONS WITH ORCHIDS.—At the visit of the Italian monarchs Orchids only were used to decorate the Royal table at the Guildhall luncheon. Between three and four thousand of the dainty and costly blooms were arranged in gold stands specially designed for the occasion, representing the Italian colours of green, white and red. The other twenty-six tables were embellished with carnations, white lilac, roses, lilies, and chrysanthemums—in all about 9,000 blooms—or a grand total of between 12,000 and 13,000 Orchids and less important flowers.—*Journal of Horticulture.*

ORCHID CULTURE IN LEAF MOULD.

BEFORE the next Orchid growing season comes upon us may I ask growers to give their opinions for or against the use of leaf-mould, and the reasons, from past experience, for their preference.

I may say that I was content, and very successful, with the old system of culture in sphagnum and peat or fern fibre, but being requested to try the leaf-mould I have done so, with the following results :—Wonderful root action, large bulbs and leaves, also many extra breaks or growths ; but the main or primary object—flowers that will last long on the plants, or when cut for decorating—has been very unsatisfactory. The flowers in some cases don't live half so long as formerly, with the peat culture, particularly Odontoglossums, though the plants themselves simply revel in leaves. At the end of the last London season my employer, whilst complimenting me upon the fine Odontoglossums and Cattleyas sent to London, said, "but they don't last any time now." Since then I have noted that the flowers of Cattleya Gaskelliana, and C. labiata, cut from plants grown in leaves don't last so long as formerly, when peat was used, one exception, however, being Odontoglossum grande. Dendrobium Phalænopsis Schrœderianum flowers have faded at the bottom of the spikes before the top flowers opened, and fine spikes they were too. At present the coloured Lælia anceps are opening their flowers, and go off sooner than formerly, and the plants are simply pictures of health.

A noted grower of thousands of Odontoglossums for market cutting, who has gone in for the leaf-mould treatment entirely, tells me that the flowers don't last so long by half as when he did not use leaves.

I may say that my Phaius "Cookson's seedlings" grown in leaf-mould are marvellous and showing wonderfully strong flower spikes. It is also A1 for growing seedlings in.

J. HAMILTON.

Manderston, Duns, N.B.

[We should like to see this question ventilated, and evidence would be particularly valuable from those who have tried the two systems side by side. From the above remarks it would almost appear that pure leaf-mould was used, and that the greater vegetative luxuriance had a detrimental effect on the quality of the flowers ; the question arises, therefore, whether the advantages of both systems might not be obtained by combining them. The use of a compost, containing both fibrous peat and leaves in a flaky condition, has several times been recommended, and the foregoing experience points in the same direction. The diverse opinions that have been expressed as to the use of leaf-mould are very puzzling, and emphasize the necessity for further experiments as to the best way of using it.—ED.]

THE TROUBLES OF AN ORCHIDIST.

THE woes dealt out to mortals are many from the first,
But the troubles of an Orchid man must surely be the worst!
For when the fever smites him with its stony, mailed fist,
There's no escape left open—he's a full-fledged Orchidist!

He'll ponder over price lists; he'll burn the midnight oil,
And he'll send all o'er creation for sample peat or soil;
He'll argue till he's tired on the merits of his way,
How and when to sun or shade 'em, 'till there's nothing left to say.

He has some fine Angræcums, an Oncidium or two,
Fifty-seven kinds of Dendrobes, and a Vanda, real true blue;
He has lots of Catasetums, and a Stenoglottis pink,
No end of Epidendrums, and Calanthes, too, I think.

His Miltonia vexillaria is the finest in the State,
And his Cypripedium hybrids are—well, they're simply great;
He imports Odontoglossums and Cattleyas by the score,
Has forty Lælia crosses, and Cymbidiums galore.

The costly Phalænopsis, and the Isochilus queer,
The lovely Sophronitis, and the Spathoglottis dear;
There's a Brassavola glauca, and an Ionopsis too,
Such a charming Microstylis, and an Aerides that's new.

There's a pot of Bulbophyllum that's enough to drive one frantic,
Masdevallia cucullata, and Stanhopea gigantic:
There's Sobralia Amesiana, and Phaius rich and rare,
And a Chysis langleyensis—but I really must forbear.

For were I to go further and enumerate the lot,
Tetanus would seize me—I'd expire on the spot.
These, and many, many others are the symptoms of his plight.
And he's happiest among them, be it morn or noon or night.

Oh, the woes dealt out to mortals are many from the first,
But the troubles of the Orchidist must surely be the worst.

—*American Gardening.*

ORCHID CULTURE IN GLASS POTS.

AN interesting illustration of a Cypripedium growing in a glass pot, in the collection of Captain G. W. Law-Schofield, New Hall Hey, Rawtenstall, appears in the *Gardeners' Chronicle* for December 5th last (p. 383, fig. 154). It is accompanied by the following note:—

"I enclose a photograph which I have just taken of the roots made by a Cypripedium potted in a glass pot. After hearing that Mr. De B.

Crawshay had exhibited an Odontoglossum grown in a similar pot, I decided to see what Cattleyas, Cypripediums, and Odontoglossums would do in glass. The Cypripedium, which has been in the pot about six months, has made good leaves, but has not flowered since potting. One Odontoglossum has grown an exceptionally fine bulb with very long leaves, which grow erect and very stiff and strong. We have quite given up tree leaves for Cypripediums, as we found that the flowers were so much inferior when leaves were used to those potted in the old way. The material in the glass pot is composed of peat, sphagnum moss, and fibrous loam. We flowered two plants of Cypripedium nitens, Ball's variety, one potted in leaves and the other in loam, &c., and found that the flowers of the one in the latter were altogether superior to those of that in leaves. We seldom find any root action in the plants we get from the Continent potted in leaf mould, so for the Cypripediums we have used the old material for a year back, and with very great advantage."

REVERSION IN ODONTOGLOSSUMS.

MR. Gurney Wilson, Glenthorne, Hayward's Heath, contributes the following note to the discussion on "Reversion in Odontoglossums" (*Gard. Chron.*, 1903, ii., p. 356):—"Assuming that a spotted or blotched crispum is the result of hybridity between a crispum and another species of Odontoglossum, and that when this plant is fertilised by the pollen of another such hybrid its progeny shows reversion, how is it that it does not revert to the other parent as well as to the O. crispum? We know that when certain species are hybridised together, their progeny shows the form and markings of both parents, proof of which we have in O. × excellens (triumphans × Pescatorei), loochristiense (crispum × triumphans), etc.; and supposing that these hybrids were crossed with others having the same parents, and that this process was continued with their offspring, we should, after passing through the laws of reversion, be able to produce plants which would prove to be pure species, and show no signs of hybridity at all. Assuming then, that we could do the same with blotched crispums we ought to produce not only pure crispums, but pure forms of the other species, which is supposed to be the other parent of the blotched crispum. Also that as reversion is a natural state of things, and continually going on, we ought by this time to have discovered another species, which would show some signs of being the other parent, but it is difficult to imagine a flower having such characteristics as would, when hybridised with an O. crispum, produce progeny whose only difference is in the blotching of the segments, and without in any way altering the crest or shape of the petals."

ORCHID HYBRIDIZATION.

I HAVE derived great pleasure from reading your articles on "Orchid Hybridization," as they have appeared from time to time, and feel sure they supply a long-felt want. On page 217 you say of sowing seeds "another method is to pack some living sphagnum moss in a pot, and over this stretch a piece of *moderately fine canvas* on which the seeds are sown," &c. My experience is that *thick* calico is better than fine canvas. I have had the best results sown on what we in Lancashire call "thick twill calico." I take a 5in. pot and fill it full of living moss rather tightly; then take a piece of the calico large enough to cover the whole of the moss. This I place flat on my hand, then turn the moss out of the pot on to it, wrapping it completely round the moss, then drop it into the pot again, making the top firm and slightly rounded by pushing the calico down the sides of the pot with a label, until the surface is quite even. One great advantage of this method is that so long as there is any moisture in the moss the absorbent qualities of the cloth will communicate it evenly over the surface, so that if by any chance the pots are neglected a day or two no serious results occur. Four pots of Cattleya and Lælia seeds sown as above this summer have come up so thickly as to give one the impression that every possible seed had germinated.

HYBRIDS OF ODONTOGLOSSUM CRISPUM.

WE commenced the illustrations in our last volume with a series of varieties of the beautiful Odontoglossum crispum, showing the remarkable range of variation it presents, and we may commence the present one by bringing together a series of its hybrids, showing how remarkably diverse some of them are: which, of course, arises from the great diversity between the species with which it will hybridise. Five of those represented are natural hybrids, and two have been raised artificially, and it is interesting to trace the influence of the O. crispum parent in the different forms. It is needless to say that the series is not complete, but in any case it is a very remarkable one, which for interest and beauty it would be difficult to match in any other group. O. crispum seems to hybridise with remarkable facility in a wild state, as hybrids occur between it and almost every other Odontoglossum with which it grows, and it is extremely probable that secondary hybrids also occur, though such plants are exceedingly difficult to recognise unless their history is known. There has, however, for a long period been reason to suspect that some of the so-called "blotched crispums" have such an origin, and it is to be hoped that further light will soon be thrown on the origin of these very puzzling plants.

O. × ANDERSONIANUM was the first of the series, and appeared unexpectedly in an importation of O. crispum made by Messrs. Hugh Low & Co., as long ago as 1867. It passed into the collection of the late James Dawson, Esq., of Meadow Bank, near Glasgow, and was named in compliment to his gardener, Mr. James Anderson. Its hybrid origin was

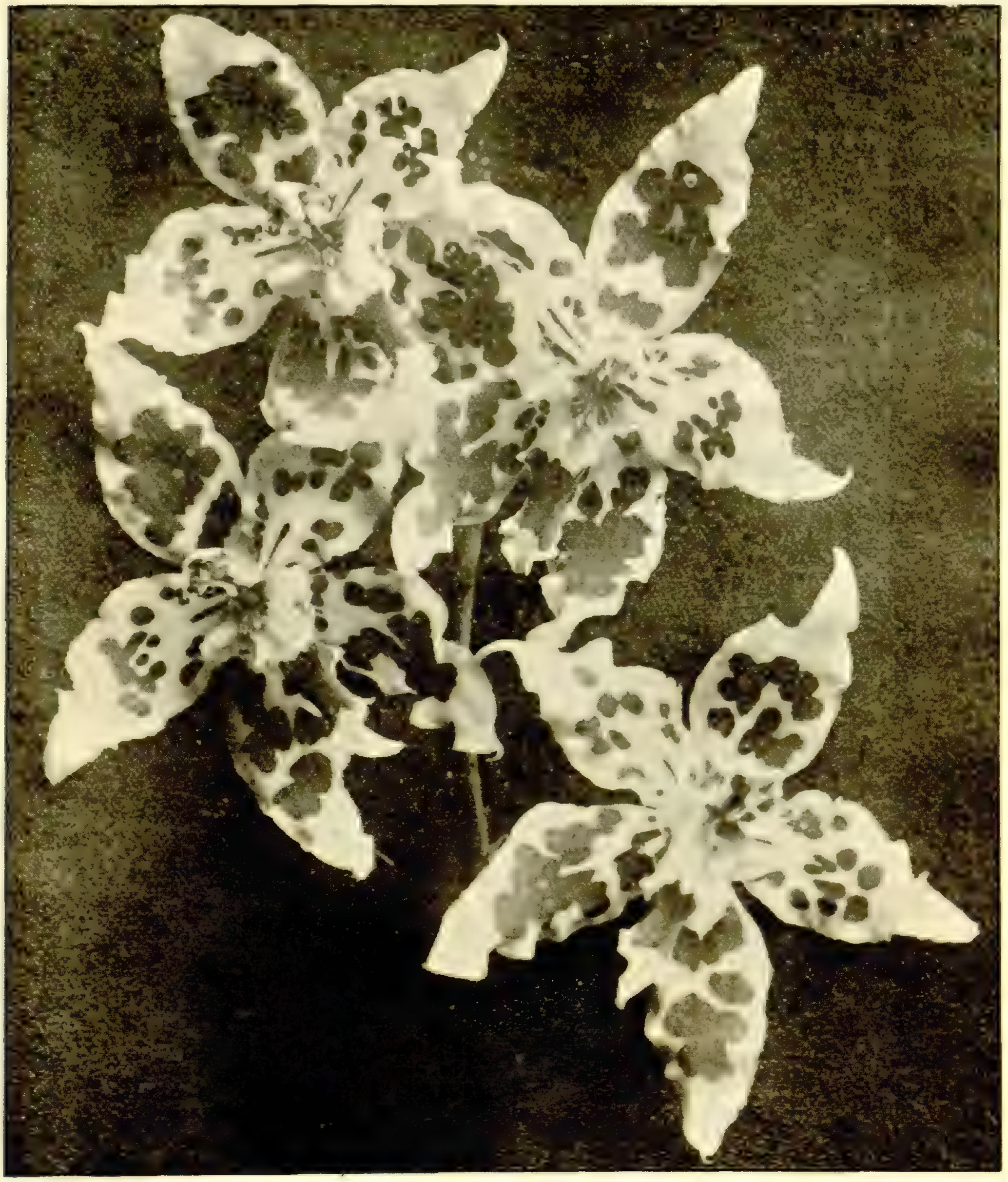

FIG. 1. O. × ANDERSONIANUM BOGAERDEANUM.

recognised from the outset, though at first there was a slight doubt about the second parent, which, however, was soon recognised to be O. gloriosum. It is now known to be a very common and remarkably polymorphic hybrid, and one which has received a host of names.

The variety Bogaerdeanum (fig. 1) was introduced by Mr. A. Bogaerde, of Birmingham, in 1895, and received an Award of Merit from the R.H.S. in May, 1897, when exhibited by De Barri Crawshay, Esq., Rosefield, Sevenoaks.

O. × DENISONÆ appeared in the collection of Lord Londesborough, in 1872, and was awarded a First-class Certificate by the R.H.S. It appeared in an importation of O. crispum made three years before by Messrs. Backhouse, of York, and was at first thought to be a white variety of O. luteopurpureum, but afterwards Mr. Denning pointed out that it combined the characters of O. luteopurpureum and O. crispum, between which he regarded it as a hybrid. In 1880 a much darker form, with yellow ground, appeared in the collection of M. Massange de Louvrex, of Baillonville,

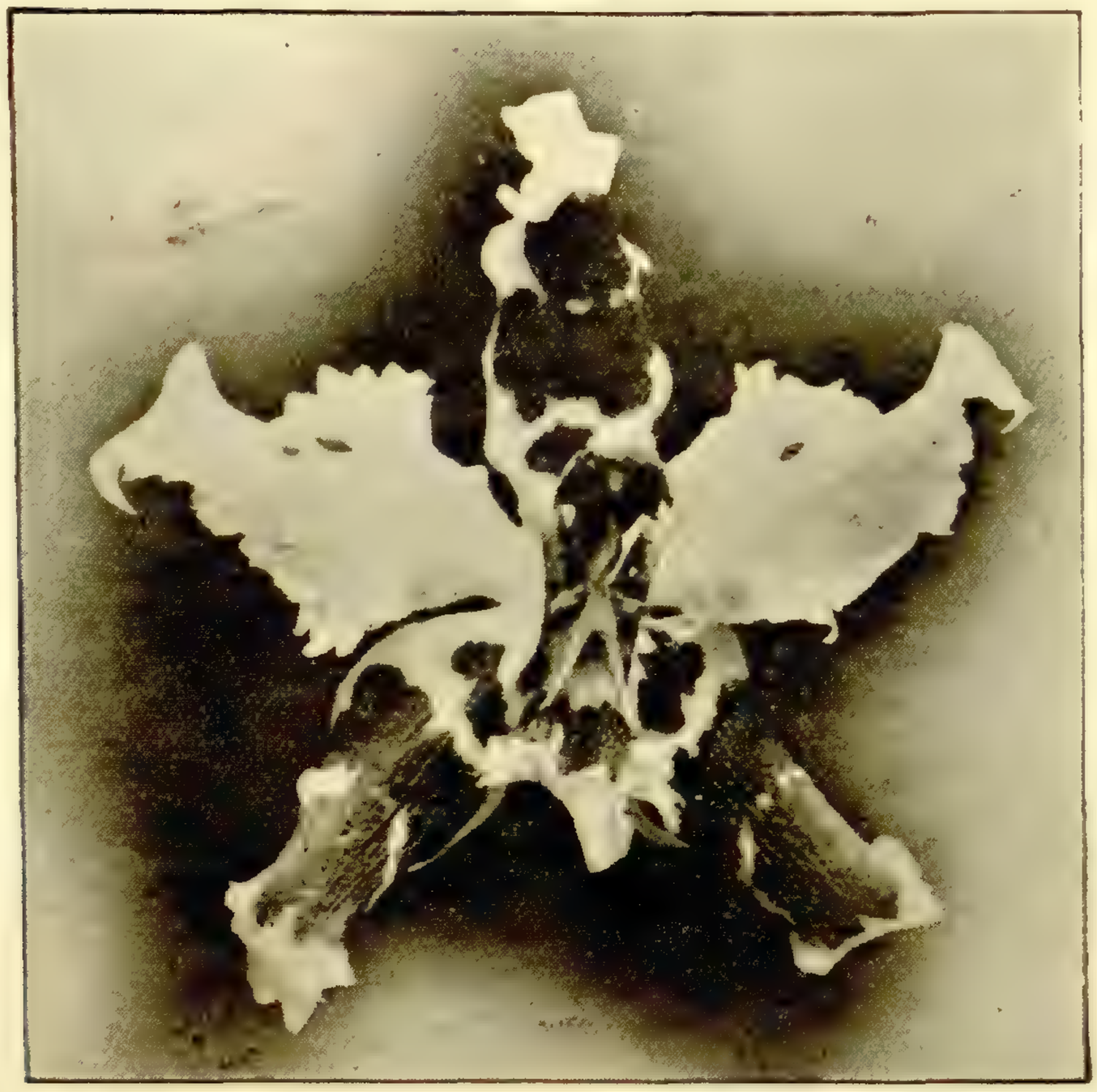

FIG. 2. O. × DENISONÆ CHESTERTONI.

Belgium, and was named O. × Wilckeanum, after M. Massange's gardener, its hybrid origin and parentage being pointed out by Reichenbach. The parentage has since been confirmed, the plant having been raised artificially in the collection of Baron Edmond de Rothschild, of Armainvilliers, by M. Leroy. It is very variable, and includes forms with both white and yellow grounds, with a wide range of variation in the amount of the spotting.

The variety CHESTERTONI (fig. 2) is a remarkable form, which was not at first recognised as a form of this hybrid. It appeared in an importation of O. crispum, sent to Messrs. James Veitch & Sons by the late Mr. Chesterton, and received a First-class Certificate from the R.H.S. in March, 1876, as O. Chestertoni. It afterwards passed into the collection of

Baron Schröder, and has been ranked as a variety of O. crispum. The flower here figured is from the type plant. It has creamy white flowers, heavily blotched with dark brown on the sepals and lip, while the petals are nearly unspotted, thus affording a very effective contrast.

O. × DENISONÆ GOLDEN QUEEN (fig. 3) contrasts very strongly with the preceding variety, and indeed was at first regarded as a variety of O. crispum. It appeared in the collection of W. Thompson, Esq., Walton Grange, Stone, and received an Award of Merit from the R.H.S. in November, 1896, under the name of O. crispum Golden Queen, and a First-class Certificate in May, 1901, under the name now adopted. The colour

FIG. 3. O. × DENISONÆ GOLDEN QUEEN.

is bright golden yellow, with red-brown spots. The origin of this plant has been the subject of some discussion, which may be found at pages 73 to 75 of our fifth volume, the question being whether it is a variety of O. crispum, a form of O. × Denisonæ, or even a secondary hybrid between the two. That it is a hybrid is now generally admitted--as also the so-called yellow varieties of O. crispum—but the exact origin can scarcely be considered as beyond dispute. In shape and the details of the crest it most approaches O. crispum, but hybrids which most resemble one parent in certain characters are common. We may soon have hybrids between the two plants in question with which it can be compared.

O. × CORADINEI flowered in the establishment of Messrs. James Veitch & Sons, at Chelsea, in 1872, out of an importation of O. crispum, and was named after one of the collectors who sent it home. Reichenbach suggested that it might be a hybrid between O. triumphans and some species of the odoratum group. It was, however, afterwards recognised as a hybrid between O. crispum and O. Lindleyanum. It is a fairly common hybrid, though less variable than the two preceding. It would be interesting, now that the difficulty of raising seedling Odontoglossums has been so largely overcome, to have the parentage confirmed by actual experiment, and there should be little difficulty about the matter if the

FIG. 4. O. × CORADINEI MIRABILE.

species in question were crossed together. A similar remark applies to O. × Andersonianum, and to O. × Adrianæ, figured on the next page.

The variety MIRABILE (fig. 4) is a very remarkable form which appeared in the collection of Baron Schröder, The Dell, Staines, and received an Award of Merit from the R.H.S. in June, 1894, under the name of O. crispum mirabile, and a First-class Certificate in May, 1897, under the present name, its hybrid origin in the meantime having been pointed out. It is the finest form of this hybrid which has yet appeared, and the figure here given was taken from a flower of the type plant.

O. × ADRIANÆ first appeared in April, 1897, in the establishment of Messrs. L. Linden & Co., at Moortebeek, and was at once recognised as a hybrid between O. crispum and O. Hunnewellianum. It then received a First-class Diploma of Honour from the Orchidienne of Brussels. It is now known that it came out of an importation of O. crispum from a new locality, where the two species mentioned grow intermixed, and since that time many other plants have appeared in the same way, and it has proved to be common and remarkably variable in colour and markings. As in other hybrids between O. crispum and another yellow-flowered species, there are hybrids both with white and yellow ground colour, and the amount of spotting varies greatly, some forms being very densely and others very

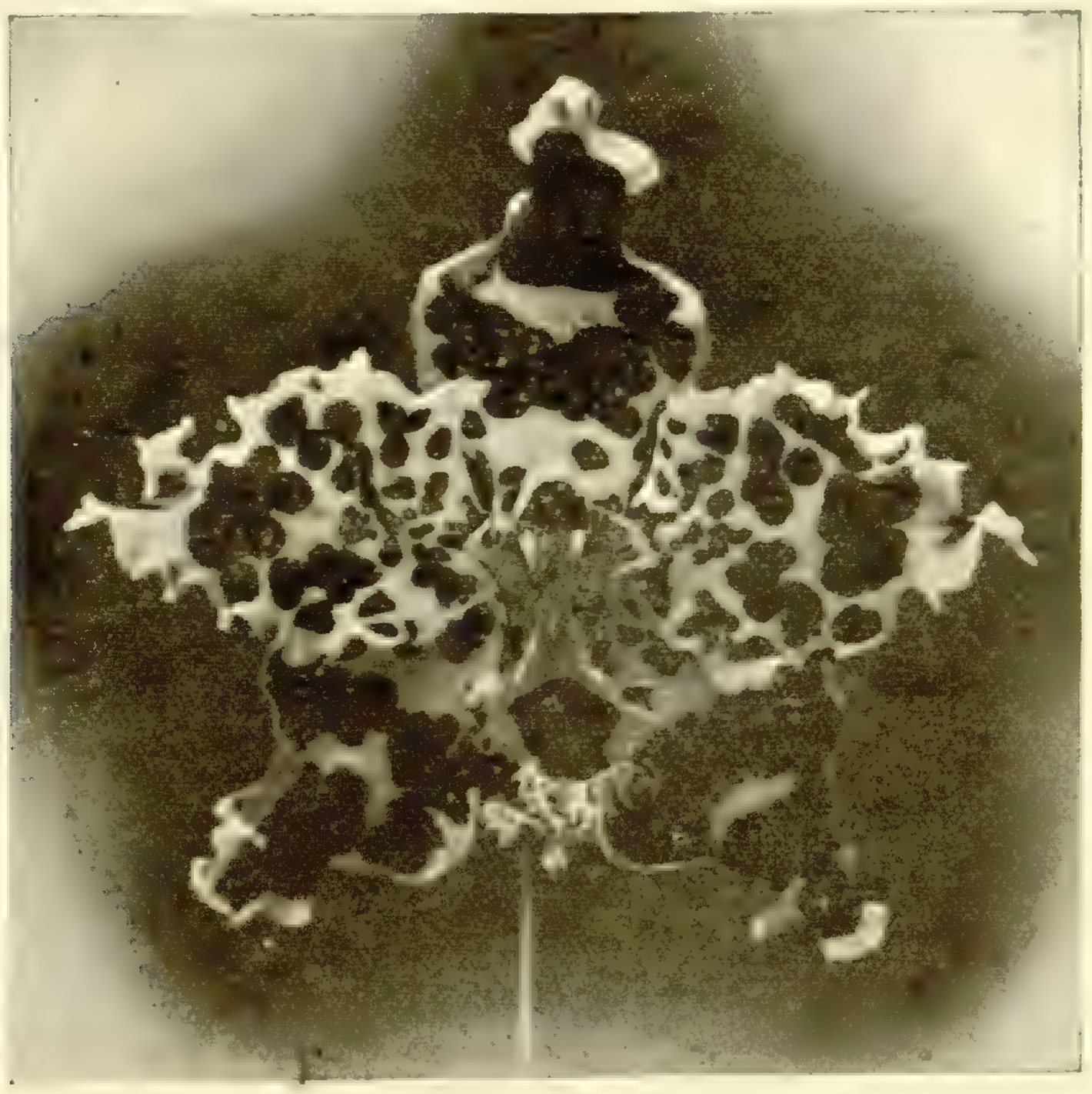

FIG. 5. O. × ADRIANÆ VICTORIA-REGINA.

sparingly spotted. In every case, however, the characteristic shape and details of O. Hunnewellianum can be very readily traced. It is curious that the hybrid should have remained so long unknown, considering how diligently O. crispum has been searched for.

The variety VICTORIA-REGINA (fig. 5) is a very heavily blotched and handsome form from the collection of Baron Schröder, The Dell, Staines, which received a First-class Certificate from the R.H.S. in April, 1902, under the name of O. × Adrianæ memoria Victoria-Regina. It is one of the handsomest varieties known, and our figure was taken from a flower of the type plant.

O. × ARMAINVILLIERENSE is an artificial hybrid raised by M. Jacob, gardener to Baron Edmond de Rothschild, Armainvilliers, near Paris, according to the record, from O. Pescatorei crossed with O. crispum. It flowered in December, 1898, and received a First-class Certificate of Merit from the Société Nationale d'Horticulture de France. It was described as a superb form, perfect in shape, with some dark spots. We have not seen it.

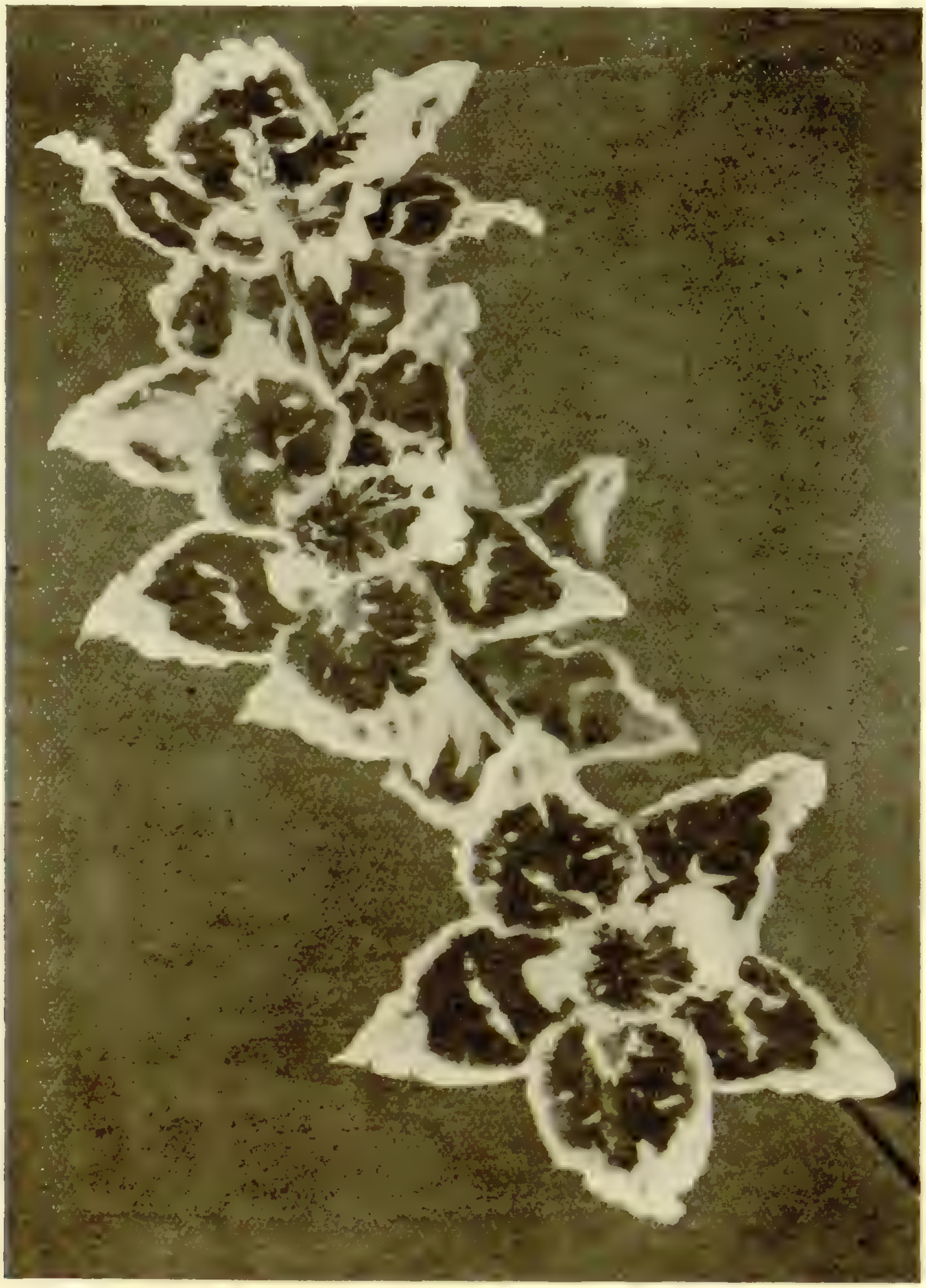

FIG. 6. O. × ARMAINVILLIERENSE ARDENTISSIMUM.

The variety ARDENTISSIMUM (fig. 6) is a superb form raised by M. Ch. Vuylsteke, Loochristi, Ghent, from O. Pescatorei ♀ and O. crispum Franz Masereel ♂. It flowered in May, 1902, and was exhibited at the Temple Show, under the name of O. × ardentissimum, when it received a First-class Certificate. The ground colour is white, and the markings

claret-coloured. Three other handsomely spotted forms derived from the same cross received Awards of Merit at the same time, under the names of O. × concinnum, O. × dulce, and O. × venificum, and it is noteworthy that at the Temple Show last year three other forms of the same cross received Awards of Merit, and one other a First-class Certificate. Other seedlings from the same cross were quite unspotted.

O. × WALTONENSE (fig. 7) was raised in the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens, from O. crispum ♀ and O. Kegeljani (polyxanthum) ♂, and flowered in January, 1903, when it received a First-class Certificate from the R.H.S. The first seedling flowered when

FIG. 7. O. × WALTONENSE.

slightly under three years old, and one or two others have since arrived at the flowering stage. The flower is of a beautiful soft canary-yellow, with a single red-brown blotch on the lip. It promises to be a great horticultural acquisition when the plants become stronger.

There are at least two other handsome hybrids of O. crispum, namely, O. × crispo-Hallii, raised in the collection of Norman C. Cookson, Esq., and flowered for the first time in November, 1896, and O. × crispo-Harryanum, raised by M. Ch. Vuylsteke, and first flowered in May, 1898, and each of them gained a First-class Certificate from the R.H.S.

THE GERMINATION OF ORCHIDS.

M. NOEL BERNARD has been studying the germination of species o Cattleya and Lælia, and communicates the results of his work to a recent number of the *Comptes Rendus* of the French Academy of Science (vol. cxxxvii. pp. 484-485). Seeds of Cattleya and Lælia and their hybrids germinate very freely under glass, and are usually sown in damp sawdust. After about a fortnight, the embryos produce small "spherules" or globular bodies, which are conspicuous by their green colour. They remain for some time at this stage, and sometimes do not develop further, the seeds sooner or later dying from the attack of a parasitic mould. Under favourable conditions, however, after a varying period, which may be as much as one or two months, growth commences and proceeds steadily forwards. Germination is always slow and irregular; often after four or five months the most advanced plants are not more than five millimetres high. These little plants are then top-shaped, widened at the apex, where the terminal bud is formed. They are always more or less covered at their basal point, to which the suspensor is attached, by a filamentous endophytic fungus. M. Bernard's experiments have shown that the penetration of this fungus is an essential condition in the germination of Orchid seeds, a point which had been previously suggested, but the proofs now offered had not hitherto been obtained.

Hybrid seeds from M. Magne, obtained by intercrossing Cattleya Mossiæ and Lælia purpurata, were used, and details of the cultural methods employed are given. M. Bernard found that if the seeds were completely sterilised germination never progressed beyond a certain stage, but in the presence of the particular fungus the seedlings developed in the usual way. He was also able to cultivate this fungus on a nutrient medium separately, and when sterilised germinating seeds were removed to a pure culture of this fungus the mycelium rapidly penetrated the suspensor of the seedling, and invaded the cells adjacent to the embryo, after which the seedlings developed in the usual way. Parasitic fungi and bacteria, on the contrary, rapidly destroyed the embryos. If the proper fungus is present germination succeeds, but if its presence is prevented the embryo ceases to develop beyond a certain stage. M. Bernard concludes that the embryo Orchid will no more develop into a perfect plant without the assistance of the fungus than an egg can go through its evolution without being fertilised. It may be remembered that a similar "symbosis" has been pointed out in the germination of seedling oaks and other plants. The identity of the particular fungus is at present uncertain, but this point will be investigated later on, and it will be extremely interesting to have the point cleared up.

PAPHIOPEDILUM × QUEEN OF ITALY.

The annexed illustration represents a very beautiful hybrid raised by Messrs. Charlesworth & Co., Heaton, Bradford, from Paphiopedilum insigne Sanderæ and P. Godefroyæ leucochilum. It was exhibited at the R.H.S. meeting on November 24th last, under the name of Cypripedium × Queen of Italy, and received an Award of Merit, as recorded at page 366 of our last volume. It is fairly intermediate in character, having a dwarfer scape than P. insigne Sanderæ, and broader petals,

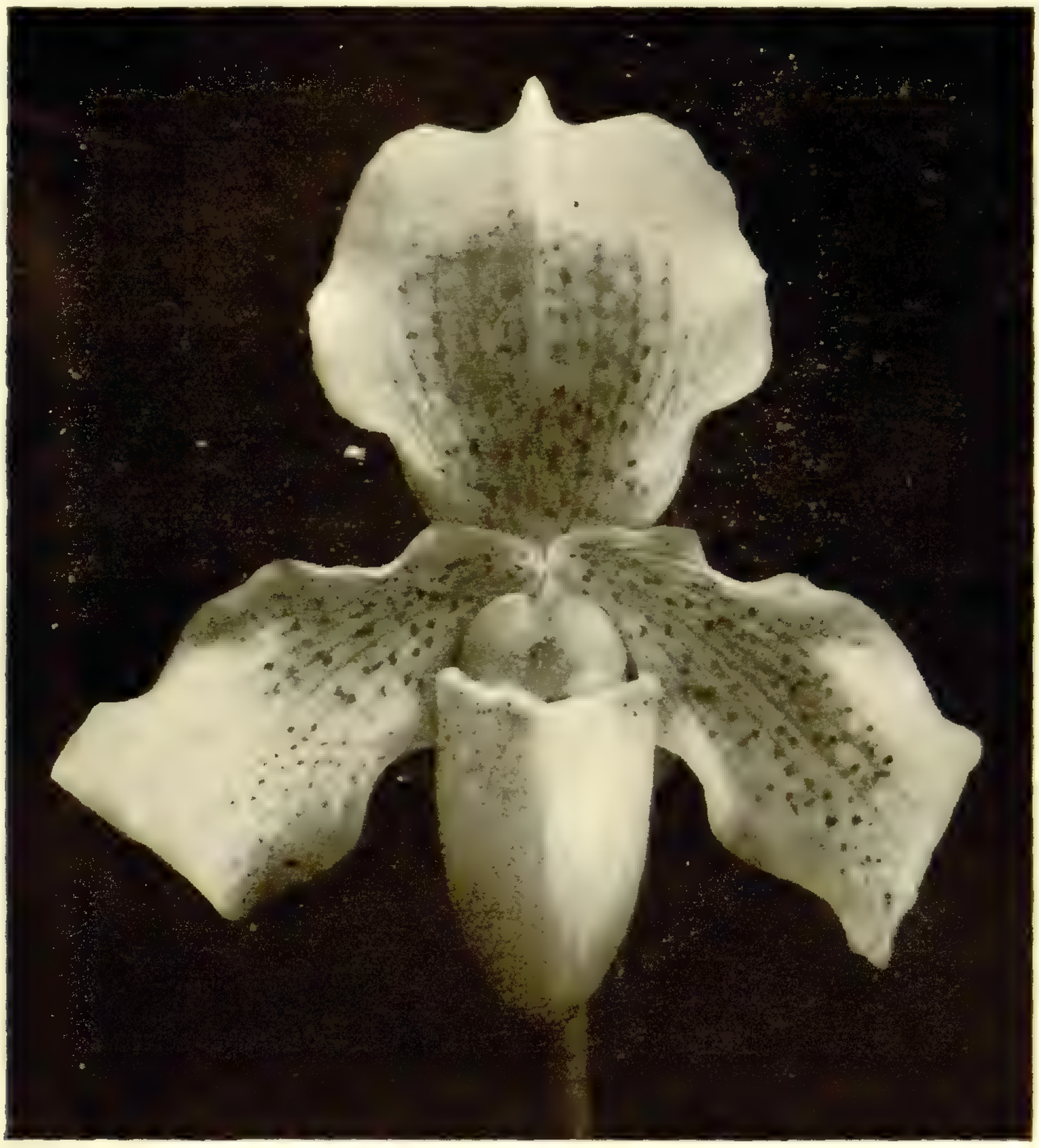

FIG. 8. PAPHIOPEDILUM × QUEEN OF ITALY.

which, like the dorsal sepal, are light primrose yellow, spotted with light brown, as shown in the illustration. The foliage also partakes of the character of both parents. It is a charming variety, of good constitution, and its delicate colouring gives it a very distinct appearance. The light ground colour reflects the character of both parents, and the increased amount of spotting is, of course, due to the influence of P. Godefroyæ leucochilum.

SOCIETIES.

ROYAL HORTICULTURAL.

THE last meeting of the year was held at the Drill Hall, Buckingham Gate, Westminster, on December 15th, when the display of Orchids was probably the finest seen at the Drill Hall during the year, the Cypripedes being especially fine. No less than ten medals of different kinds were awarded for groups.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), gained a Silver-gilt Flora Medal for a magnificent group, containing Cypripedium × Leeanum Masereelianum, with twenty-four flowers; C. × Pitcherianum, with eighteen flowers: C. × Mrs. Chas. Canham, with thirty-five flowers; the handsome C. × dellense (× Lathamianum × insigne Sanderianum), C. insigne undulatum, with undulate margins to the petals and dorsal sepal; C. i. Sanderæ, with eight flowers; Odontoglossum × Humeanum, O. luteopurpureum Amesianum, O. × cuspidatum xanthoglossum, a fine well-flowered plant of Lycaste × Balliæ, and Oncidium ornithorhynchum album, with seven branched spikes. The only First-class Certificate of the meeting went to Odontoglossum × Vuylstekei vivicans, a very beautiful hybrid, having perfectly-shaped flowers, the sepals and petals broad, and heavily blotched with dark purple-red on a yellow ground, and the lip paler, and bearing a large red-brown blotch in the centre, with a few smaller ones on each side. An Award of Merit was given to Cypripedium × Leeanum Clinkaberryanum, an exceptionally fine form.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. H. J. Chapman), staged an exceptionally fine group, to which a Silver-gilt Flora Medal was deservedly awarded. It contained many fine blotched forms of Odontoglossum crispum, including O. c. Peetersii, O. c. Cooksonianum, O. Pescatorei Lindeni, Cypripedium × Arcturus, C. × Baron Schroeder, C. × Norma, C. × Youngiano-superbiens, C. × Juno, C. × Niobe Oakwood var., C. insigne Sanderæ with ten flowers (Cultural Commendation), and other plants. Awards of Merit were given to Cypripedium × Leeanum Clinkaberryanum, C. insigne Sanderæ Oakwood seedling, and Odontoglossum crispum Mariæ. The second is a very beautiful form, raised in the collection from C. insigne Sanderæ, self-fertilised, and has come practically true from seed, though the dorsal sepal is rather broader, and other slight differences are observable. The Odontoglossum is a fine white form, tinged with purple at the back of the segments, and prettily blotched with reddish brown.

G. F. Moore, Esq., Bourton-on-the-Water (gr. Mr. Page), staged a splendid group, which gained a Silver-gilt Flora Medal. It contained a fine collection of Cypripediums of the best quality, well-grown and flowered,

chiefly insigne and × Leeanum varieties, about 75 named forms and some unnamed being included.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), secured a Silver Flora Medal for an extremely good collection of Cypripedes, the cut flowers of nearly 100 varieties being represented. Among the best were twelve distinct yellow varieties of C. insigne, the fine C. i. Berryanum, with a few large dark blotches on the dorsal sepal; C. i. Wrigley's variety, C. i. macranthum, C. × triumphans, C. × Euryades Wrigleyanum, C. × Curtisio-ciliolare, and others. An Award of Merit was given to the fine Cypripedium × Leeanum Clinkaberryanum, which is noted on another page, while a similar award was made in the case of C. × nitens Wrigleyanum, a large and handsome variety.

W. E. Budgett, Esq., Henbury, Bristol, showed a fine group of Cypripediums, containing 190 well-grown plants. The whole of the plants were cultivated by Mr. Budgett himself without the aid of a gardener. A Silver Flora Medal was deservedly awarded.

H. Whateley, Esq., Spring Gardens, Kenilworth, staged a good group of varieties of Cypripedium × Leeanum, Zygopetalum Mackayi, Odontoglossum crispum, &c., a Silver Banksian Medal being awarded.

W. M. Appleton, Esq., Weston-super-Mare, showed Cypripedium × Elsie (Boxallii × Charlesworthii), C. × Fred. Hardy (Charlesworthii × Spicerianum), and Cypripedium × Dowlingianum Appleton's var. (Godefroyæ leucochilum × insigne punctatum violaceum), the latter having a very handsome flower, cream-coloured spotted with purple.

Lt.-Col. H. C. Batten, Abbot's Leigh, Bristol, exhibited Cypripedium × Mrs. Cary Batten, the flower being large, and the yellow dorsal sepal marked with purple; also a hybrid between C. × nitens and C. × Sallieri.

J. T. Bennett-Poë, Esq., Holmewood, Cheshunt (gr. Mr. Downes), showed Cymbidium × Tracyano-giganteum.

Captain G. L. Holford, Westonbirt, (gr. Mr. Alexander), showed Cypripedium × Charlesianum superbum, C. × Euryades superbum, C. × E. marginatum, C. × E. aureum, C. × E. Westonbirt variety, and the handsome Lælio-cattleya × Ophir superba (L. xanthina × C. aurea), having the flowers deep yellow, tinged with rose on the lip.

F. A. Rehder, Esq., The Avenue, Gipsy Hill (gr. Mr. Norris), sent Cypripedium × Tia (exul × Ianthe superbum).

Messrs. J. Veitch & Sons, Chelsea, staged a fine group of hybrids, to which a Silver Flora Medal was awarded. The best were Lælia × Icarus, L. × Mrs. M. Gratrix, Lælio-cattleya × Hon. Mrs. Astor, L.-c. × Terentia, L.-c. × Coronis, L.-c. × Eunomia, L.-c. × Bryan, L.-c. × Cappei, L.-c. × Wellsiana, L.-c. × Epicasta, L.-c. × Semiramis, and L.-c. × luminosa.

Messrs. H. Low & Co., Enfield, gained a Silver Flora Med

excellent group, containing Cymbidium Tracyanum, Cypripedium × Euryades, C. × Leeanum magnificum, C. insigne Statterianum, C. i. Monk's Cowl, with a concave dorsal sepal, C. i. Mrs. F. W. Moore, a yellow variety with a few pale purple blotches on the dorsal sepal, C. i. Dormanianum, and Odontoglossum crispum.

Mr. J. Cypher, Cheltenham, gained a Silver Banksian Medal for a small group of Cypripediums, containing C. × Leeanum giganteum, the fine C. × Charlesianum (C. × Leeanum var. × Sallieri Hyeanum), the handsome C. × Queen of Italy (insigne Sanderæ × Godefroyæ leucochilum), and others.

Messrs. B. S. Williams & Son, Upper Holloway, exhibited a good group, for which a Silver Banksian Medal was awarded. It contained varieties of C. × Leeanum, C. insigne grandiflorum, C. i. violaceo-punctatum, several fine forms of C. × Harrisianum, C. × Williamsianum, C. × Pitcherianum Williams' variety, Calanthe × Sandhurstiana, C. × Oweniana, and Lælio-cattleya × Sallieri.

M. Chas. Vuylsteke, Loochristi, Ghent, exhibited Odontoglossum × loochristiense ornativum, O. × Wilckeanum, O. × ardentissimum radicans, having large flowers spotted with purple, and the large Miltonia vexillaria robusta autumnalis. An Award of Merit was given to the large and handsome Odontoglossum × Harryano-crispum virens.

Messrs. Sander & Sons, St. Albans, showed a group containing Cypripedium × Clio magnificum, C. × Garrett A. Hobart inversum, C. Charlesworthii albino, forms of C. × Leeanum and C. insigne, Lælia anceps Amesiana, Lælio-cattleya × Helvetia, L.-c. × bletchleyensis, Cattleya × Adonis, etc.

Mr. H. A. Tracy, Twickenham, showed a nearly yellow form of Cypripedium × Chas. Canham, called variety aureum.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on December 4th last, when there was a very good display of Orchids.

E. Rogerson, Esq., Didsbury (gr. Mr. Blomeley), staged a rich group, which gained a Silver-gilt Medal. First-class Certificates were given to Cypripedium × Para (Charlesworthii × bellatulum), a beautiful claret-coloured flower, of intermediate shape, and C. × Queen of Italy (C. Godefroyæ leucochilum × insigne Sanderæ), a very pretty cream-yellow, lightly-spotted flower, and an Award of Merit to C. × Stanley Rogerson (C. Charlesworthii × callosum).

Walter Laverton, Esq., Victoria Park, Manchester, staged a very interesting group, consisting chiefly of Cypripediums, which gained a Bronze Medal.

Messrs. Charlesworth & Co., Heaton, Bradford, sent a fine collection, to which a Silver Medal was awarded. It consisted largely of hybrid Cattleyas and Lælio-cattleyas, among which may be mentioned C. × Minucia superba and C. × F. W. Wigan as plants which gaained Awards of Merit.

Mr. John Robson, Altrincham, received a Bronze Medal for a very pretty group, and an Award of Merit for Lælio-cattleya × Robsoniæ (C. Bowringiana × L.-c. × Ingramii).

Messrs. John Cowan & Co., Gateacre, received a Bronze Medal for a small group, and Awards of Merit for Cypripedium callosum splendens and C. × Imperator (ciliolare × Rothschildianum).

Messrs. A. J. Keeling & Sons, Westgate Hill, Bradford, staged a small group, to which a Vote of Thanks was awarded. It contained a very interesting hybrid from Cypripedium Chamberlainianum × C. Parishii.

Messrs. Sander & Sons, St. Albans, also received a Vote of Thanks for a small group of Lælio-cattleyas.

Mr. D. McLeod, Chorlton, exhibited Cypripedium insigne Sanderianum and C. × Annie Measures, in good condition.

AT the meeting held on December 18th there was again a fine display of Orchids, the majority being Cypripedes.

A. Warburton, Esq., Haslingden (gr. Mr. Bailey), received a First-class Certificate for Cypripedium × Archimedes, a handsome hybrid said to have been derived from C. insigne Harefield Hall var. × C. × nitens magnificum.

W. E. Budgett, Esq., Bristol, received a Silver Medal for a nice group of Cypripediums, and Awards of Merit for C. insigne giganteum and C. × Mrs. Cary Batten.

E. Rogerson, Esq., Didsbury (gr. Mr. Blomely), also obtained a Silver Medal for a good group, and an Award of Merit for Cypripedium × bingleyense var. Hilda.

Walter Laverton, Esq., Victoria Park, Manchester, received a Bronze Medal for a small miscellaneous group, and an Award of Merit for Cypripedium × Evelyn Ames.

R. le Doux, Esq., West Derby, Liverpool, received an Award of Merit for Odontoglossum crispum marlfieldense, in which the petals are lip-like at the base, having a yellow area, on which are some radiating light brown streaks, like those on the lip.

G. W. Law-Schofield, Esq., Rawstenstall, received an Award of Merit for Cypripedium × rossendalense, a plant of unknown parentage.

Messrs. Charlesworth & Co., Bradford, staged a very fine group, to which a Silver-gilt Medal was awarded. Cypripedium × Thalia received

an Award of Merit, and a plant of the beautiful Odontoglossum crispum xanthotes was also noteworthy.

Messrs. A. J. Keeling & Sons, Westgate Hill, Bradford, staged a small group, and received a Vote of Thanks, also an Award of Merit for Cypripedium × Leeanum Keeling's var.

Messrs. John Cowan & Co., Gateacre, received an Award of Merit for a fine plant of Cypripedium insigne MacNabianum.

M. D. McLeod, Chorlton, exhibited a small group of hybrid Cypripediums, to which a Vote of Thanks was accorded.

Mr. W. Owen, Hartford, also received a Vote of Thanks for a collection of Cypripedium varieties.

Mr. J. Robson, Altrincham, exhibited a few good Cypripedes.

ORCHIDS IN SEASON.

SEVERAL beautiful Orchids are sent from the collection of the Right Hon. J. Chamberlain, M.P., by Mr. Mackay, including Lælia × nigrescens (tenebrosa × pumila præstans), a very dark-lipped form; Lælio-cattleya × Tresederiana (L. crispa × C. Loddigesii), in which the character of the former comes out very strongly in the lip; L.-c. × Helena (L. cinnabarina × C. Schilleriana), with orange-brown sepals and petals, the latter prettily undulate, and the front lobe of the lip rich purple-crimson; L.-c. × Gottoiana; and a seedling purchased from Messrs. Keeling. Of the latter Cattleya Loddigesii is given as one parent, and its characters are well shown in the shape and colour of the flower, while the pollinia show that the other parent was a Lælia, but it is not quite certain which. A tinge of yellow in the purple of the segment, with some purple veining on the lip, and a slight undulation of the petals, suggest something like L. grandis, but the point requires to be cleared up. It is a pretty little hybrid.

The brilliant little Sophrolælia × læta Orpetiana is sent from the collection of Captain Holford, Westonbirt, Tetbury. The flower measures three inches across, and is bright carmine-rose in colour, with some deep yellow in the throat of the lip. A flower of the handsome Lælio-cattleya × Cassiope Westonbirt var., which received an Award of Merit from the R.H.S. on November 24th, is also sent, and Mr. Alexander remarks that it has been open quite a month. It is large, and of excellent shape and colour, the lip being of the deepest purple, and the deep yellow throat also lined with purple. Lælio-cattleya × Ophir superba (L. xanthina × C. Dowiana aurea) is another most beautiful hybrid from the same collection. The sepals and petals are of the deepest apricot-yellow, and the front of the lip is more or less suffused with rose, while some of the Dowiana veining appears on the side lobes. The flower has been open a month.

A fine form of Lælia autumnalis is sent from the collection of Mrs. Hollond, Wonham, Bampton, by Mr. Stacey, together with the very richly coloured L. Gouldiana, and a yellow form of Paphiopedilum insigne, approaching the variety Sanderianum, but having a narrower dorsalsepal.

Three good forms of Odontoglossum crispum are sent from the collection of J. Bradshaw, Esq., The Grange, Southgate. Two of them are good round forms, having white petals and a few small blotches on the sepals and lip, while the third has particularly broad rounded segments, prettily tinged with rose, and bearing a single circular brown blotch on four of the segments, and a few additional spots on the lip and one lateral sepal. They are from small plants, and should develop into fine things.

Some interesting flowers are sent from the collection of R. le Doux, Esq., Marlfield, West Derby, Liverpool, by Mr. Davenport. Odontoglossum crispum marlfieldense is a remarkable variety which received an Award of Merit from the Manchester Orchid Society on December 18th last. It may be described as a white unspotted form, tinged with rose on the sepals, but the base of each petal is yellow, with several light brown radiating lines, just like those on the side lobes of the lip, but rather longer and paler in colour. Thus it is a peloriate variety like O. c. Lady Jane and O. c. Oakfield Sunrise, and the peculiarity is likely to be permanent. The other two are seedling Paphiopedilums whose parentage has unfortunately been lost. One, however, is evidently derived from P. Chamberlainianum and P. villosum, and is thus a form of P. Madiotianum. The inflorescence bears several flowers. The other is a hybrid from P. Spicerianum and some other with tessellated leaves, the mottling being compared with that seen in P. × Harrisianum. It may indeed be partly derived from the latter, and thus a form of P. × Savageanum. The flower is of good size, and the dorsal sepal white, suffused and lined with green in the lower half, the lines becoming purple-brown at the base, where also is a slight purple suffusion from margin to margin ; while a broad purple band extends along the centre from base to apex. The scape is two-flowered.

Lælia anceps Leemanni is a large and very richly coloured variety from the collection of J. Leemann, Esq., West Bank House, Heaton Mersey. The lip may be described as almost saturated with rich purple, even on the disc, so that the usual purple veining is largely obliterated. It is very beautiful. Mr. Edge also encloses a two-flowered scape of the chaste and beautiful Lælia autumnalis alba, the flower being white throughout except the keels of the lip, which are light yellow.

Paphiopedilum × Hera Cambridge Lodge var. is a very beautiful variety sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, by Mr. Smith. The dorsal sepal is white, becoming light green in the basal fourth, and regularly marked, except at the margin, with

round dark purple blotches, which are only slightly confluent in places. The petals, lip, and staminode have very largely retained the villosum character. The petals are rather short and broad, and spread nearly horizontally. Both shape and colour are excellent.

PAPHIOPEDILUMS FROM BURY.

A BEAUTIFUL series of winter-blooming Paphiopedilums was exhibited at the R.H.S. meeting on December 15th last from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, and a fine collection was afterward, forwarded to us by Mr. Rogers. P. insigne is present in force, and includes twenty-seven named varieties, of which no less than eleven are yellow. Most of them have already been described in these pages, and it is surprising to find so much variation among yellow forms. They differ however, in the breadth of the dorsal sepal, and in the distinctness and amount of the spotting, and in some other details, the original Sanderæ being still the best of a beautiful series. Similar differences are found between the sixteen spotted forms, the beautiful Harefield Hall variety being much the finest of the series. There is a remarkable range of variation in size, and in the number and magnitude of the spots, in some cases being about four times as numerous and only a quarter as large as in others, with a further variation in the relative size of the green and white areas, the spots becoming purple as soon as they extend into the white upper part.

The hybrids are a fine series, and include P. × Arthurianum, P. × nitens Wrigleyanum, P. × Sallieri Hyeanum, P. × aureum Marion, having the light brown spots partially confluent in lines, and P. × Leeanum magnificum and Clinkaberryanum. The latter is an enormous flower, with the dorsal sepal only a line under three inches broad, and bearing numerous small spots, and the petals an inch across. It received an Award of Merit. P. × Tityus and its variety superbum, with P. × Pollettianum superbum, are richly coloured forms of great beauty, having the dorsal sepal finely spotted, while in the handsome P. × Swinburnei magnificum the spots are most conspicuous on the petals. Lastly must be mentioned a two-flowered scape of P. × Schillianum. It is a very beautiful series, and the splendid development of the flowers shows evidence of excellent culture. These plants are invaluable for winter blooming.

In connection with the yellow forms of P. insigne mentioned above it may be interesting to reproduce the group of six varieties exhibited at the Horticultural Hall, Boston, in January, 1900, by John E. Rothwell, Esq., Brookline, Mass., to which the Silver Medal of the Massachusetts Horticultural Society was awarded. The variety Laura Kimball, in the

upper left hand corner, and Sanderæ, in the centre, have each three flowers and the rest one, and they may be recognised by the position of the names underneath. They differ chiefly in shape and in the details of colouring.

FIG. 9. P. I. ERNESTI.

FIG. 10. P. I. LAURA KIMBALL.

FIG. 11. P. I. SANDERÆ.

FIG. 12. P. I. SANDERIANUM.

FIG. 13. P. I. YOUNGIANUM.

FIG. 14. P. I. WM. MILLIE DOW.

CALENDAR OF OPERATIONS FOR JANUARY.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

WITH the advent of a New Year commences another cycle of hopes and aspirations for the more or less ardent Orchid grower, and as without hope one would make little or no progress, without effort our hopes and anticipations would, so to speak, be doomed to disappointment, therefore it is necessary to know how and when to make an effort, and direct our capabilities into the right quarter. The monthly Calendar of Operations is given with this object in view, that those having less experience in the practice of Orchid growing may glean something from those more fortunate, and at the same time it enables us to record our own experiences, so that even those who may have had a greater and longer experience in Orchid cultivation may find something which may add to their already extended mine of information. We will take it for granted that we all know something of our subject, and therefore dispense with otherwise necessary explanations of terms used in our profession. To understand each other it will be better perhaps to describe the various departments in a general collection of Orchids, so that when referred to in future issues, under their proper headings, we shall be understood, and also that anyone having the slightest pretension to be an Orchid amateur may know what he can grow with the accommodation at his disposal.

It will be proper at this season to take the Cool department first, in which are grown such well-known kinds as Odontoglossum crispum, O. Pescatorei, O. Rossii, Disas, Masdevallias, and a great many others. The houses for these should be so built that an abundance of air can be given, both top and bottom. The temperature of this department should vary from 50° to 60°, taking the former for the central figure during the winter months, say from the end of October to the beginning of April, when, during most of the time, it is necessary to use fire-heat. For the remainder of the year the latter figure will be more the central point, and all efforts should tend to keep the temperature below or somewhat near that point, by judicious damping, airing, and shading; and, oftentimes, by these means, in the hottest weather, the internal temperature can be kept considerably below that of the outside.

We now take the other extreme, namely, the East Indian department, and here it is not so much a difficulty of keeping it cool, but warm enough, and consequently fire-heat plays a great part almost the whole year round. The temperature now should be:—Night 60°, or a trifle above, according to outside conditions; and day 65°, and more if induced by sun-heat.

Between the two extremes we have the Cattleya house and Intermediate department. The first describes itself by the name, and is so called because

most species of Cattleya from the Alpine regions of South America thrive under the existing conditions of the house, while those requiring a degree or so more warmth, or vice versa, can generally be accommodated at the warmest or coolest end as required. The temperature should now be 60°, a few degrees more during the day, and a few less at night.

The Intermediate house is one having a temperature intermediate between the Cattleya house and the Cool one, and is better suited to the requirements of the grower when divided into two divisions, where varying degrees of warmth and moisture may prevail suitable to the inhabitants.

Then in large establishments there is what is known as a Mexican house, which is chiefly devoted to Mexican Lælias, and others, such as L. anceps, L. autumnalis, L. grandiflora (majalis), &c., and it is a wise plan to have such a house, as these plants are great lovers of sunlight, but where a separate house is not provided they can generally be found a place by themselves in the Cattleya house.

Having noted the various departments, it will be wise to take a glance through them, noting what is in bloom and the condition and treatment required by the general occupants.

In the Cool house we first note that Odontoglossum crispum, Pescatorei, constrictum, Sanderianum, and others of this section, have various members of their respective species in bloom, whilst others are in full growth. The latter will require to be kept moister at the root than those in bloom, or nearly so, but providing the proper amount of moisture be present in the air none of the plants should be given water enough to keep the compost in a sodden condition. In flower we have O. Rossii and O. Cervantesii hanging overhead, and although these appreciate moisture, they should not be dipped immediately the material shows signs of becoming dry. Epidendrum vitellinum is also in this house, and gives a brilliant effect when in bloom. The plants are now at rest, and should only have water given them at long intervals, otherwise the leaves will turn yellow and fall off. Ada aurantiaca, though of a different character, produces flowers of a similar hue; the plants are now in full growth, and therefore should have plenty of water at the root. Oncidiums are also represented here, such as O. varicosum, now at rest, and hence to be kept on the dry side; O. Marshallianum, just commencing to grow, and thus requiring more water, though, as a rule, this plant produces more roots when kept slightly on the dry side at this season. O. incurvum succeeds when given the same treatment as Odontoglossums. In the case of O. olivaceum, now pushing up its spikes from the perfectly made growths, guard against over-watering the plant, or the spikes may damp off.

Masdevallias are, I regret to say, not so popular as formerly. They require to have a few degrees more warmth at this season than that given

for the above. This may be done by keeping them at the warmest end of the house, or in a compartment by themselves. They should all be kept more or less on the dry side, as harm is done by keeping these plants in too moist a condition during winter. With the Masdevallias may be grown Cymbidium eburneum, elegans, Mastersii, and Devonianum, all of which thrive in a moist corner, excepting the latter, which should be given a hanging position. These are potted in a mixture of loam and peat, and in consequence do not dry up so quickly, so that, with a good watering now and again, they will go a long time without injury.

It is not possible to deal with all the different Orchids in the Cool houses, so that we will pass on to the Intermediate department, where we find the Lycastes—a genus which ought to be more largely cultivated. L. Skinneri is now pushing up its flower spikes, yet should still be kept moderately dry; also L. plana, now in bloom. The deciduous kinds, such as L. aromatica, consobrina, cochleata, &c., and the strong growing kinds, L. lanipes, Barringtoniæ, and mesochlæna, must be kept dry, except when shrivelling is apparent, then a little water should be given. The same remarks will apply to Anguloas. Sobralias should never be kept dry for long at a time, and if the drainage is good water may be applied when the surface becomes dry.

Miltonia vexillaria at this period is an intermediate subject, and being now in full growth, requires very careful management, fluctuations of temperature, an over-saturated atmosphere, and insufficient ventilation, being the chief things to guard against. The plants should be looked over frequently, as the edges of the inner young leaves adhere to each other, and may be released with a pointed stick, or the thin part of a budding-knife handle. A sharp look-out for thrips is necessary, and if suspicious of their presence fumigate slightly with XL All, and sponge the leaves with clean tepid water to remove dust and dirt.

Another beautiful intermediate Orchid is Odontoglossum citrosmum, which should be grown in baskets or pans, suspended from the roof. Having finished growing, as far as last season's growth is concerned, keep them dry, to induce the formation of flower spikes in the succeeding growths that are just beginning to show themselves. The plants will not suffer, even if the pseudobulbs shrivel, as they soon plump up again when given a good watering, and this may be done on the appearance of the flower spikes.

In the Cattleya house with few exceptions the occupants are at rest, the exception being C. intermedia, which is now sending up its slender growths. C. Warneri is also pushing forward. These two should be given a light and warm position. All should be watered sparingly and carefully, only giving sufficient to prevent unnatural shrivelling. C. Trianæ and its

varieties, and C. Percivaliana, should be kept more moist now they are pushing up their flower buds, but as soon as the flowers are open give little or no water until later in the year.

Lælia anceps and varieties of L. autumnalis being in flower, will last longer if the air around them be kept moderately dry, little water being required. L. crispa is now making new growths, but should still be kept on the dry side. Plenty of L. purpurata have not all finished growing yet, and will take no harm by giving them more moisture at the root.

Cœlogyne cristata does best at the coolest end of the house, and is now in the interesting condition of flower production. Considerable care is necessary when watering not to wet the bract enclosing the buds, or they may turn black and decay.

We now come to the Warm or East Indian house, where we have so many subjects that only a very few can be mentioned now. The Vandas Aërides and such like plants require little moisture other than that afforded by damping down, for it is preferable to damp between the receptacles than to water the plants to keep the moss alive. Angræcums require more water as they are now rooting, and in some instances sending out their flower spikes. Phalænopsis, which require the heat and other conditions of this house, are really better managed when occupying a house to themselves, they are now making a fine display, such species as P. amabilis, grandiflora, Schilleriana, Stuartiana, and the natural hybrids leucorrhoda and casta are at their best. A genial moist atmosphere must be maintained as much less water need be given to the plant direct when it is present in the air. It is remarkable how dry some of these plants may be kept without injury, the roots keeping much longer when treated so. The beautiful Eulophiella Elizabethæ has nearly completed growth, and if kept rather drier at the root now, will help the plant to send up its flower spikes.

Keep the temperature generally as near the required standard as possible, keep up the requisite degree of humidity, and the air pure and sweet if possible, with careful ventilation, and, as previously advised, keep most of the plants on the dry side, and little harm will reach them during this month.

HABENARIA CARNEA.

WITH respect to the beautiful specimen of Habenaria carnea figured as the frontispiece to our last volume, we omitted to state that the excellent photograph was taken by Mr. J. E. Edwards, secretary to H. J. Elwes, Esq. As to the method of culture adopted, we have received the following interesting note from Mr. Walters :—

"The culture practised here differs but little from that followed at Kew

and elsewhere, success or failure wholly depending on careful potting and watering. As soon as the plants are at rest, they should be re-potted, care being taken in turning them out, as the majority of the new tubers will be found among the drainage of the pan. Pot in a good porous compost of peat, loam, and sphagnum, adding finely-broken crocks and sand in quantity. Place them in a rather shady corner of the Warm house, where they will be free from drip and the syringe, as water, if allowed to lodge on the plants, soon disfigures the beautiful foliage. The rate at which this species increases is somewhat remarkable, for the plant figured had five tubers when potted in December, 1901, but when re-potted in December, 1903, it had nineteen tubers."

Colesborne Park, Cheltenham. W. H. WALTERS.

NEOMOOREA IRRORATA.—It would appear that the remarkable Orchid, Moorea irrorata, requires to be renamed, the generic name Moorea being preoccupied, having been applied to the well-known Pampas Grass as long ago as 1855; a fact which has been overlooked until recently. The history of the question has recently been given by Dr. Stapf (*Gard. Chron.*, 1903, ii., p. 399). The Pampas Grass, with three other species, has recently been separated from Gynerium, under the name of Cortaderia (Stapf in *Gard. Chron.*, 1897, ii., p. 357), but Moorea was applied to the plant over forty years earlier, and therefore is not available for the Orchid genus, which may be amended to Neomoorea. Neomoorea irrorata, Rolfe, is well figured at t. 7262 of the *Botanical Magazine*, and its history was given in this work some time ago (vol. ix., p. 158). It is a very striking plant, and at present very rare in cultivation.

THE HYBRIDIST.

LÆLIO-CATTLEYA × LYDIA.—A very pretty novelty was exhibited by Messrs. Charlesworth & Co. at the Drill Hall, Westminster, on December 15th, under the above name, of which flowers are now sent. It was raised from Lælia Cowanii ♀ and Cattleya Gaskelliana alba ♂, and has flowers fairly intermediate in shape, and of a pleasing bright canary yellow colour throughout, except that the disc of the lip is of a deeper yellow shade. The sepals and petals are at present two inches long, and the latter ¾ in. across. The lip is three-lobed, with the front lobe prettily undulate, and the side lobes when spread out extend to 1½ inches broad. It is an interesting addition to the group, and should develop into a striking thing when the plant becomes strong.

NOTES.

THE Royal Horticultural Society will hold two meetings at the Drill Hall, Buckingham Gate, Westminster, during January, on the 5th and 26th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on January 8th and 22nd. The Committee meets at 12 noon, and the exhibits are open to inspection from 1 to 3 p.m.

We regret to learn, through the *Gartenflora* for December 15th, that Consul F. C. Lehmann, the well-known collector, has been drowned in Columbia. We hope to give some particulars of his work in our next issue.

An important Horticultural Exhibition will be held at Turin, from May 10th to 25th next, being the first of its kind which has been held in Italy. The exhibition will be held in the Parc du Valentin, under the patronage of the King, and will comprise 289 classes for plants, flowers, fruits, and horticultural accessories generally.

It is interesting to note that a good plant of Paphiopedilum Charlesworthii at Kew is now carrying a twin-flowered scape, as the species is not often seen in this condition.

Three beautiful Paphiopedilums are sent from the collection of J. Leeman, Esq., Heaton Mersey. P. × Calypso Froebelii is of excellent shape, and has a very richly coloured dorsal sepal. P. × Evelyn Ames has far more of the P. Boxallii character than the preceding, especially in the shape of the flower, and yet, according to the records, it is a hybrid between P. × Calypso and P. × Leeanum. The ovary, however, is not villose. The third is supposed to have been derived from P. × Leeanum giganteum × P. × Bruno, and much resembles the former in general character, but the dorsal sepal is closely dotted with light purple nearly all over, and very effective.

A very pretty hybrid is sent from the collection of Mrs. Hollond, Wonham, Bampton, which we take to be a form of P. × Leeanum. It has the general character of the latter, and the dorsal sepal is very prettily blotched with purple, except for the pure white margin, which is half-an-inch broad. The seed was sown five years ago.

THE ORCHID STUD-BOOK.—We have to thank several correspondents for communications respecting this work (see p. 353 of our last issue) and in reply we beg to say that further details will be given next month.

ORCHID PORTRAITS.

CATTLEYA GUTTATA PRINZII.—*Journ. Hort.*, 1903, ii, p. 599, with fig.

CATTLEYA LABIATA.—*Amer. Gard.*, 1903, p. 655, with fig. VAR. ALBA—*Amer. Gard.*, 1903, p. 655, with fig.

CORYANTHES SPECIOSA.—*Gard. Mag.*, 1903, p. 823, with fig.

CYPRIPEDIUM × ARTHURIANUM PULCHELLUM.—*Journ. Hort.*, 1903, ii, pp. 574, 575, with fig.

CYPRIPEDIUM (PAPHIOPEDILUM) GLAUCOPHYLLUM, J. J. Sm.—*Gard. Chron.*, 1903, ii, p. 405, fig. 161, with suppl. tab.

CYPRIPEDIUM INSIGNE HAREFIELD HALL VAR.—*Garden*, 1903, ii, p. 431, with fig.

CYPRIPEDIUM × VILLE DE PARIS.—*Gard. Mag.*, 1903, p. 839, with fig.

LÆLIA ANCEPS OWENIANA.—*Journ. Hort.*, 1903, ii, pp. 530, 531, with fig.

LÆLIA × HELEN.—*Gard. Chron.*, 1903, ii, p. 417, fig. 165.

LÆLIO-CATTLEYA × DECIA.—*Journ. Hort.*, 1903, ii, pp. 552, 553, with fig.

PHAIO-CYMBIDIUM × CHARDWARENSE.—*Journ. Hort.*, 1903, p. 507, with fig.

PHALÆNOPSIS MARIÆ.—*Journ. Hort.*, 1903, ii, p. 599, with fig.

RESTREPIA ANTENNIFERA, H. B. et. K.—*Bot. Mag.*, t. 7930.

VANDA INSIGNIS, Blume.—*Wien Ill. Gart. Zeit.*, 1903, p. 433, t. 1.

VANDA × MARGUERITE MARON.—*Rev. Hort.*, 1903, p. 574, with tab., fig. 1.

VANDA SUAVIS.—*Rev. Hort.*, 1903, p. 574, with tab., fig. 3.

VANDA TERES.—*Rev. Hort.*, 1903, p. 574, with tab., fig. 2.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

H.G.A.—Maxillaria ochrolenca.

I.B., Zurich.—Liparis grossa, Rchb. f., a native of Burma.

F.M.B.—Epidendrum ciliare.

W.M.A.—The large caterpillar feeding within the imported Cattleya bulb is unlike anything we have seen before. We will try to get it identified.

G.G.T.—The small centipede may have been in the compost of the Cœlogyne cristata before it was hung up. We do not remember a similar case of the base of the bulb being eaten out in this way, but the presence of the insect seems a snfficient proof that it was the cause of the mischief.

E.O.O.—Unavoidably postponed till next month.

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NOTICE TO READERS OF
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A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

Further details will appear next month.

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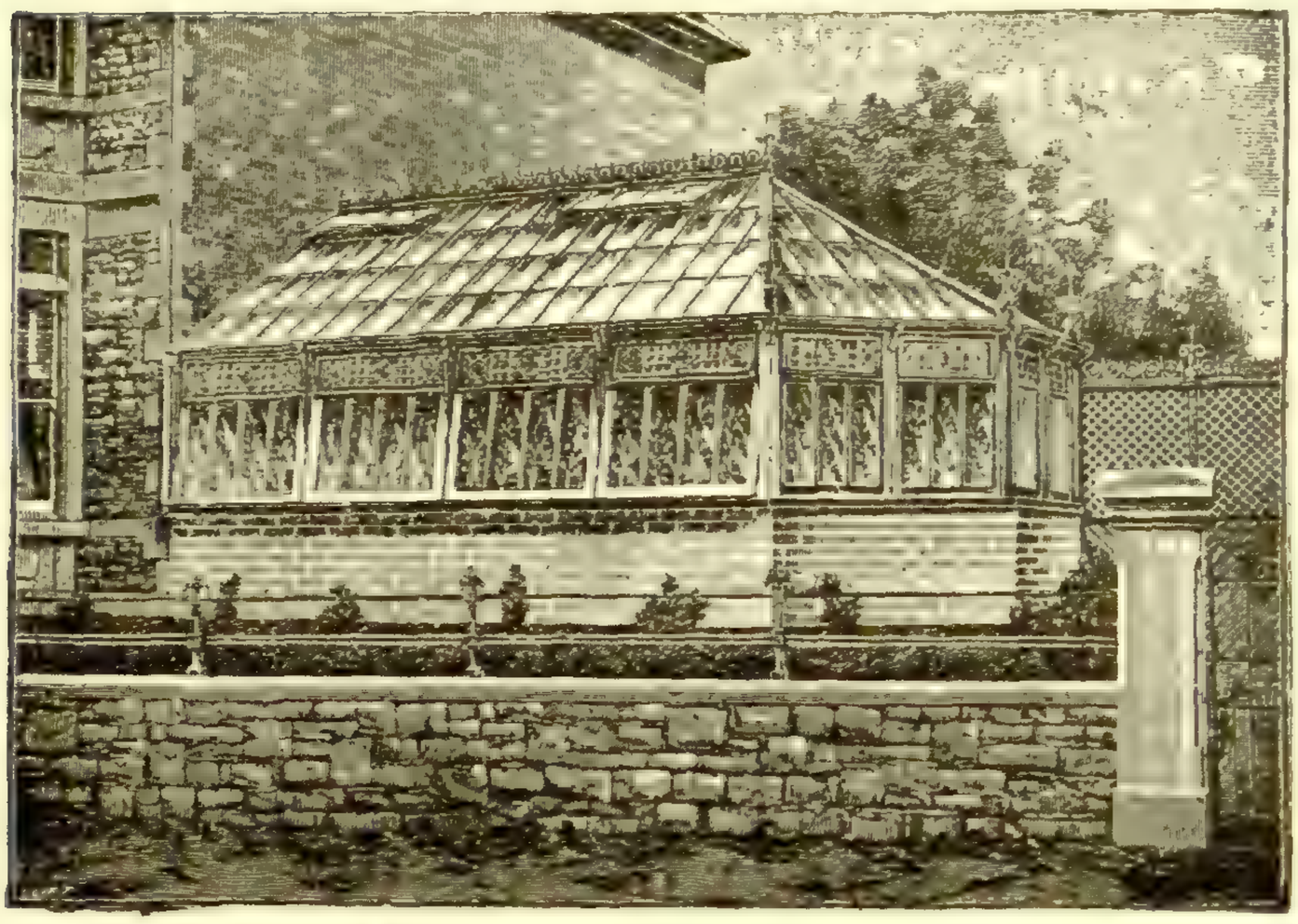

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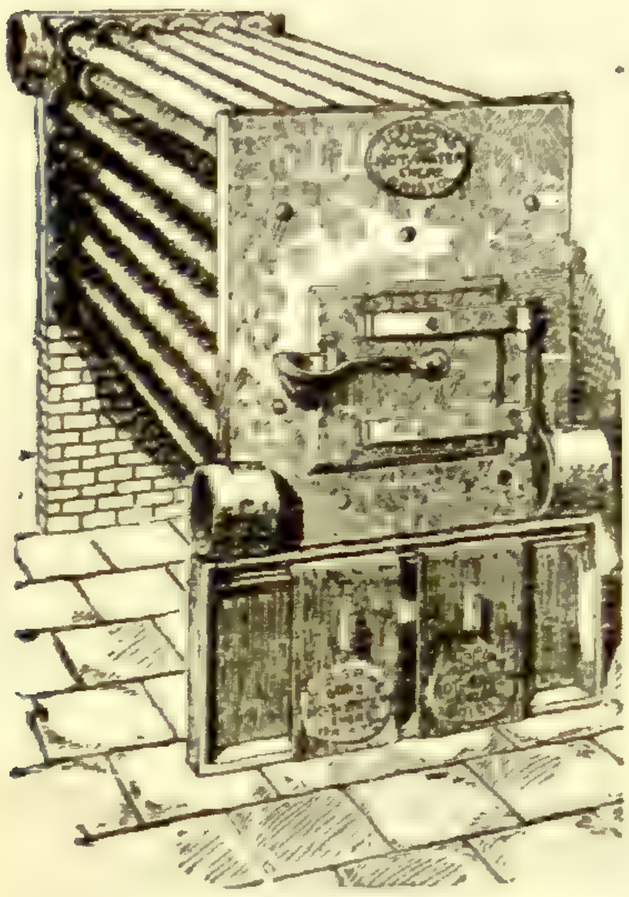

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THE HISTORY OF ORCHID CULTIVATION.

(Continued from vol. xi., p. 325.)

ONE of the most noteworthy events of 1850 was the flowering, for the first time in Europe, of the remarkable Cypripedium caudatum, in the collection of Mrs. Lawrence, of Ealing Park. It was exhibited at a meeting of the Horticultural Society on March 19th, and was awarded a large Silver Medal. It was figured in the first volume of *Paxton's Flower Garden* (t. 9). though in the text it was hopelessly confused with another species (C. Hartwegii). It is said to have been introduced to cultivation by M. J. Linden. Respecting the remarkable petals Lindley wrote as follows:—"The petals are the extraordinary part of the species. In most Lady's-slipper flowers they are short, here they extend into the most curious narrow tails, which hang down and wave in the wind, in a manner of which we have in gardens no other such example, not even in the genus of Strophanths. What adds to the curiosity of these singular appendages is the fact, first remarked by Mrs. Lawrence, that they are quite short when the flower begins to open and that they acquire length day by day, at a rate which would enable an attentive observer to see them grow. This lady has favoured us with some measurements made by herself, from which we learn that—

When the flower first opened, the petals were		$\frac{3}{4}$ inch long.
During the second day they grew	... ...	$3\frac{3}{4}$ inches.
On the third day they advanced	... ...	4 inches more.
The growth of the fourth day amounted to	...	$4\frac{1}{2}$ inches.
And on the fifth day still extended	... ...	$5\frac{1}{2}$ inches.

At this time the growth is supposed to have ceased, the petals having in four days lengthened $17\frac{3}{4}$ inches, and being about $18\frac{1}{2}$ inches long when full grown. The reason of this marvellous structure seems to deserve inquiry at the hands of some proficient in the doctrine of final causes. There is evidently a tendency towards it in other Orchids, as for example, in Brassias, some Oncidiums, the genus Cirrhopetalum, and the long-tongued Habenarias." It may here be interpolated that

the petals of well-grown examples are now known to attain a length of thirty-two inches.] Lindley here gave an enumeration of the tropical Cypripedes then known, the number being ten, seven of them Asiatic and three American.

The work just mentioned was commenced at this period, as a monthly journal, under the editorship of John Lindley and Joseph Paxton, and replaced to some extent the defunct *Botanical Register*, for in addition to coloured plates of the more striking novelties, certain pages were set apart for "Gleanings and Original Memoranda," some of the plants being illustrated by woodcuts, and, as might have been anticipated from Dr. Lindley's connection with the work, the interests of Orchidology were well looked after.

It may be interesting to enumerate the Orchids illustrated in colour in the first volume, which were as follows:—Cattleya Walkeriana (t. 3), Oncidium hæmatochilum (t. 6), Cypripedium caudatum (t. 9), Trichopilia suavis (t. 11), Odontoglossum Cervantesii (t. 15), O. nævium (t. 18), Oncidium sessile (t. 21), Cattleya labiata (t. 24), Dendrobium transparens (t. 27), Epidendrum longipetalum (t. 30), Oncidium variegatum (t. 33), and Vanda cœrulea (t. 36), just one-third of the whole, and it may be noticed that one Orchid appeared in each number.

A few of these deserve to be further noticed. Odontoglossum nævium is said to have been "sent to England several years since by Sir R. Schomburgk, and was exhibited by Mr. Loddiges at one of the Spring Meetings of the Horticultural Society in the present year." The record of origin, however, seems open to question, and in any case we are told that M. Linden is offering good plants of this and O. odoratum "at the modest price of two guineas each." Trichopilia suavis was another beautiful novelty, which flowered in the collection of R. S. Holford, Esq., and also about the same time with Mrs. Lawrence and Mr. Loddiges. Of Vanda cœrulea we read:—"The honour of having introduced this glorious plant belongs to Messrs. Veitch, who received it from their invaluable traveller, Mr. Thomas Lobb."

Lælia grandis now appeared for the first time (p. 60, fig. 38), being sent to Lindley by M. Morel, of Paris, with whom it flowered. A woodcut of Calanthe vestita also appeared (p. 106, fig. 72). This plant was described as a very handsome terrestrial Orchid introduced from Burma, by Messrs. Veitch, and we read:—"A large silver medal, the highest ever given in Regent Street, was awarded to this plant by the Horticultural Society on the 7th of Nov., 1848, when it was exhibited by Messrs. Veitch for the first time. Oncidium varicosum (p. 106) was described as a fine stove Orchid from Brazil, introduced by M. Jonghe, of Brussels, and flowered at Chiswick in October 1849.

One other remarkable novelty should be mentioned, namely, Uropedium Lindenii (p. 72), which was described as an extraordinary Orchid with all the habit of the long-tailed Lady's-slipper, but the lip of exactly the same form as the petals. It was introduced by M. Linden, and flowered in May in the collection of M. Pescatore, of Celle St. Cloud, near Paris. It is now known to be an abnormal state of the Orchid just mentioned.

Orchid culture was now making great progress, and we find in the *Gardener's Chronicle* for 1850 accounts of sales, by Stevens, of 200 lots of South American Orchids collected by Warscewicz; of 194 lots collected by M. J. Linden; and of 232 lots from Central India; the prices ranging from ten shillings to £9, the latter amount being obtained for a good plant of Lælia superbiens. We also find a notice of the sale of part of "Mr. Bateman's celebrated collection of Orchids," the advertisement stating that "The Committee for providing a Church, Parsonage, and Schools in the wild, populous, and neglected district of Biddulph Moor, are happy to inform the growers of Orchidaceous Plants, that Mr. Bateman, in promotion of this important object, has generously placed at their disposal about 400 of his SPECIMEN PLANTS, among which will be found nearly all the rarest and most beautiful species at present in cultivation. These will be submitted for unreserved sale by MR. STEVENS at his Great Room, King Street, Covent Garden, on TUESDAY, the 11th day of June, on the morning of which they will be on view," &c.

A subsequent note appeared of some of the prices obtained, from which a few extracts will be interesting. Angræcum eburneum, a fine specimen, fetched 19 guineas; A. caudatum, two plants in one, each coming into flower, 18 guineas; Vanda suavis, 17 guineas, Aërides affine and A. odoratum each 14 guineas; Cattleya labiata, 11 guineas; C. Aclandiæ, two plants in one, 11 guineas; C. maxima, 6 guineas; Saccolabium guttatum, a fine plant 11½ guineas; S. ampullaceum, 10 guineas; Lælia Perrinii, a fine plant, £11; L. crispa, £4 10s.; Cœlogyne cristata, 7 guineas, Coryanthes Fieldingii (a remarkable plant which now seems to have been completely lost sight of), 7 guineas; Odontoglossum citrosum, £3 10s.; Dendrobium densiflorum, fine plant, £11 6s.; D. Veitchianum, 6 guineas; D. Devonianum, £4; D. transparens, £4 5s.; D. nobile, £3 5s.; Miltonia spectabilis, £4; variety with wholly purple flowers (no doubt Moreliana), £5 15s.; Phalænopsis amabilis, £4 5s.; P. grandiflora, £3 5s.; P. rosea, £1 3s.; Anguloa Ruckeri, 3 guineas; &c., &c.

We also find an announcement of three remarkable Orchids in flower in the Horticultural Society's garden, at Chiswick. These were:—Lælia superbiens, upwards of six feet across, and bearing nine spikes and an aggregate of ninety flowers; Dendrobium speciosum, nearly six feet across, and bearing eighteen spikes; and Phalænopsis amabilis, with forty flowers.

It is added that the plants "have been many years in the Society's possession. The first and last were, in fact, gigantic specimens when imported."

There was even a proposal to form an Orchid Society, the following note by "Dodman," appearing (p. 406) :—

"*Orchids, and the Establishment of a new Society relating to them.*—I have for some time been satisfied that it would be very desirable to establish a small society for the propagation of the knowledge of Orchidaceous plants, recording novelties, and any peculiarities as to their culture, &c. The taste for these plants is spreading daily, and Mr. Bateman's sale. where the principal growers or their gardeners were collected, reminded me of the Roxburgh Book Club, founded after the great sale of the Roxburgh books. I think from 100 to 200 might be reckoned on; and, say that the subscriptions were two guineas per annum, and one guinea entrance, this would enable the Society to defray the small expense of periodical meetings, and probably to publish a small journal." Then followed suggestions as to details, which need not be repeated, and we may add in conclusion that nothing further appears to have been heard of the proposal.

The same writer had two articles entitled, "Orchids for the Million" (p. 308, 389), in which he remarked:—"I hear almost every day of some new person starting up (undeterred by the supposed great difficulties of cultivation), who is willing to make an attempt at growing a few Orchids, and further, I find that the collectors in the upper classes are also increasing. A small house for the growing the more easily cultivated Orchids may be had at a small cost; and I do not know any one class of plants that are so fit for the management of the amateur, as they afford amusement and occupation for all the year round: and there is scarcely a day in the year but there will be some one plant or another in flower." He then went into details about some existing Orchid houses, gave a design for a cheap house, and a list of about 200 species, comprising the best in general cultivation, and concluded by saying that "collectors in all quarters are ransacking the forests, &c., to send home plants," and that a friend in Penang had written: "Our jungles are nearly stripped of all the Orchidaceous plants, such has been the demand for them of late."

The *Gardeners' Chronicle* for 1851 was distinguished by a series of over twenty articles on Orchid Culture, by Mr. B. S. Williams, gardener to C. B. Warner, Esq., of Hoddesdon, entitled "Orchids for the Million," which was afterwards expanded into the *Orchid-Grower's Manual*, a work which has since gone through seven editions, and contributed enormously to the popularisation of these beautiful plants. We find also an article by Dodman on Orchid Exhibitions, in which he complains that prizes are only offered for good culture, which results in much sameness, large specimens appearing over and over again, until one almost knew beforehand

what to look for. He thought that the exhibition of more varied collections should be encouraged. And among notices of Orchid sales we find an announcement that Mr. Rucker's collection was to be disposed of, being the finest that had ever been got together by one individual.

The second volume of *Paxton's Flower Garden* (1851-2), contained coloured plates of the following Orchids: –Pleione maculata (t. 39, fig. 1), P. lagenaria (fig. 2), Vanda tricolor (t. 42), Cattleya pallida (t. 48), Pleione humilis (t. 51), Trichopilia coccinea (t. 54), Dendrobium albosanguineum (t. 57), Aërides roseum (t. 60), Oncidium trilingue (t. 63), Aërides suavissimum (t. 66), Grammatophyllum speciosum (t. 69), and Phalænopsis rosea (t. 72). The three Pleiones, it may be added, had been introduced by Messrs. Veitch, through their collector, Thomas Lobb; also Vanda tricolor and Dendrobium albosanguineum, while Trichopilia coccinea was a handsome novelty introduced by Warscewicz, and flowered in the garden of the Horticultural Society. The flowering of the Grammatophyllum was an interesting event, and is thus alluded to:—

"At last is realised the long cherished wish to see this in flower. After years of patience, Mr. Loddiges succeeds in persuading it to expand a few blossoms last summer, all of which were in a monstrous state except one. Nevertheless, they enabled our artist to prepare the accompanying figure, which gives some idea of what the plant is: only the flowering scape proceeded from the top instead of the bottom of the stem, whence it arises in a natural condition."

The "Gleanings and Original Memoranda" again contained notices of various interesting novelties, among which we may mention Bifrenaria Hadweni (now referred to Scuticaria), introduced from Brazil by T. Brocklehurst, Esq., with whom it flowered, and Cattleya Leopoldi, exhibited by M. Forkel, gardener to the King of the Belgians.

The third, and last, volume of *Paxton's Flower Garden* (1852-3) contained several very interesting Orchids, the list of coloured plates being as follows:—Cycnoches aureum (t. 75), Cymbidium Mastersii (t. 78), Limatodes rosea (t. 81), Dendrobium fimbriatum (t. 84), Oncidium cucullatum (t. 87), Odontoglossum Pescatorei (t. 90), Mormodes igneum (t. 93), Lælia purpurata (t. 96), Cleisostoma crassifolium (t. 99), Solenidium racemosum (t. 102), and Læliopsis domingensis (t. 105).

Two of these plants quite bring us down to modern times. Concerning Lælia purpurata it is remarked:—"One of the most striking novelties which has for a long time been seen was produced by Messrs. Backhouse, of York, at one of the garden meetings of the Horticultural Society, under the name of a new Cattleya from the Island of St. Catherine's, in Brazil. It had, in fact, much the appearance of Cattleya crispa, or of a white C. labiata, but the experienced eye of one of our most acute Orchidophilists

suggested to him at the first glance that it was probably a Lælia related to L. Perrinii. And such it proved to be when the pollen masses were examined. . . . It is evidently very near the Lælia grandis, another Brazilian species."

Odontoglossum Pescatorei was described as follows:—"None of our Odontoglots equal in beauty this most lovely species, to which the smallness of our plate forbids our doing justice. The panicle of large white flowers is from two to three feet high, and not much narrower, so far do the branches extend. . . . A specimen in flower was sent us last April by Mr. Linden, and when exhibited, although long detained on its road from Brussels, struck all who saw it with admiration. And yet Mr. Linden assures us that those very flowers had been expanded *for two months*. It had been, in fact, exhibited at a great Horticultural Meeting at Brussels on the 14th March, when it received a prize, which it most richly deserved. We observe that plants are offered for sale by Mr. Linden at from 100f. to 200f. each—cheap enough. It has been named after the great and liberal French horticulturist, Mons. Pescatore, whose beautiful hothouses at Celle St. Cloud, near Paris, contain, we believe, the finest collection of Orchids known upon the Continent, and are, perhaps, richer in rare species than even the best in England."

Cycnoches aureum is a very remarkable plant which was described as follows:—"To the very singular race of Swan-Orchises, we have now the gratification of adding a new form, introduced from Central America by Mr. Skinner. It is very near the 'Spotted,' from which it differs in having a shorter and more compact raceme, whole-coloured pale, clear yellow flowers, and a lip, the terminal lobe of which is short and ovate, not long and linear-lanceolate, while the appendages into which the edge of the disc is broken up are short, forked, all radiating from the centre, instead of the uppermost one being bent back, and the two lowest are very considerably larger than the others. Is this a species? or is it a form of C. maculatum, or of some other of this masquerading genus?" It is not stated who flowered it, and it is remarkable that the species should have since been completely lost sight of.

Limatodes rosea, now known as Calanthe, was discovered in Moulmein, by Thomas Lobb, and flowered abundantly with Messrs. Veitch in December, 1852: while Mormodes igneum flowered with S. Rucker, Esq., at Wandsworth, and, with some others, is said to have been procured from the *rejectamenta* of one of Mr. Warscewicz's Sales. It is a fine species, and remarkable for its brilliant colour.

The "Gleanings and Original Memoranda" also contained some interesting novelties. Dendrobium bigibbum (fig. 245), was introduced from N. W. Australia, and flowered with Messrs. Loddiges, of Hackney.

Masdevallia Wageneriana (fig. 267), was introduced by M. Linden, who sent a living specimen to Lindley. The latter remarked:—"Masdevallias are among the most curious plants of their order, and sometimes among the handsomest. One of them, M. coccinea, which was sold lately at one of Mr. Stevens' Sales, has large flowers as scarlet as a soldier's jacket. The majority, however, among which this stands, are as insignificant in appearance as they are singular in structure." Brassia Keiliana (p. 114), flowered in the collection of Hofrath Keil, at Leipsic. Lindley remarked:—"We are indebted for our knowledge of this plant to Mr. H. G. Reichenbach the younger, of Leipsic," and we may add that it is specially interesting as one of the first of the long series of Garden Orchids described by him.

Lastly, we may mention Phalænopsis intermedia (fig. 310, "a very fine stove epiphyte," introduced by Messrs. Veitch, of which Lindley further remarked:—"It is not improbable that this beautiful plant is a natural mule between P. amabilis and P. rosea. It agrees with the former in foliage and in the tendrils of the lip: with the latter in colour, in the acuteness of its petals, and in the peculiar form of the middle lobe of the lip. . . . Flowers half-way in size between P. amabilis and P. rosea." The correctness of this shrewd inference has since been proved by direct experiment, and it is significant that at this period no artificial hybrid had flowered. Indeed, Mr. Dominy's experiments only commenced in 1852, a few months earlier at the outside, and there may have been an even closer connection between the two events.

It may be mentioned here that towards the end of 1852 an article appeared in the *Gardeners' Chronicle* commencing:—"Do Orchidaceous plants produce hybrids? is a question often asked and never answered satisfactorily. It is probable that they do!" (p. 803). It then goes on to speak of a plant figured and described by Weddell as precisely intermediate between Aceras anthropophora and Orchis militaris (with which it was found growing), as a clear case of hybridity.

The *Orchid Growers' Manual* was also mentioned (p. 263), as "a reprint of the 'Orchids for the million' recently published in our columns, with some additions." This first edition contained 108 pages.

A letter to a young Orchid grower (p. 324) contains some shrewd advice respecting the formation of a collection. "If you are very rich," the writer observes, "the way is to go to Messrs. Veitch, Messrs. Rollisson, or Mr. Loddiges with your banker's check-book": for new plants "you give an order to Mr. Linden or Mr. Skinner"; or you may have to adopt more humble methods. "Do not import. Nothing is more disappointing, and in the long run more expensive." But we must skip the details.

(To be continued.)

ORCHIDS TWENTY-FIVE YEARS AGO.

I HAVE lately been reading a book on Orchids published about twenty-six years ago, and it has been quite a revelation to me, who am but a student in Orchid lore. Only that short time ago there were no hybrids to be chronicled between Cattleya aurea and gigas, or scarcely any hybrids at all for the matter of that. No pure white Cattleya excepting Wageneri, and Dendrobium × Ainsworthii was considered quite a marvellous production. The Cypripedium list contained a modest 37 names, species and hybrids together, and as for Odontoglossum crispum varieties, one hand would almost supply sufficient digits to reckon them on.

It is the difference between those days and these that has so impressed me. Of course I had read in the *Orchid Review* and elsewhere, that this and that Orchid had flowered in such and such a recent year, but I never realised how recent, till I missed so many names from the book. Now we can see fresh varieties and new hybrids at almost every meeting of the R.H.S. Named Cypripediums can be counted by the hundred, Cattleya hybrids by dozens: and as for named crispums! ! ! one approaches this subject with bated breath, both because of number and quality. Such glorious varieties, and of such value, that fifty pounds more or less in the price is hardly considered, and so many, that in their season, every week brings new ones to the front. One can hardly expect that such a pace can be kept up, but there is no doubt the next 25 years will see some wonderful productions; chiefly home-raised. May some of these master-pieces fall to our share.

EMILY THWAITES.

ORCHIS MORIO.—A small meadow in the east of England, surrounded for miles by arable land on every side, was very conspicuous every spring for its display of O. Morio, among which grew a few O. pyramidalis; but during the four years the meadow was under the writer's notice the plants showed no signs of the disappearing trick which appears to haunt some breadths of it in certain districts. When moist pasture land purpled with Orchises is drained, these plants find it a difficult task in one season to flower, to form a new tuber, and to mature the numerous capsules, each of which contains thousands of seeds. Such a plant may not throw up flowers the succeeding year, but may devote its energy to forming another tuber, that will certainly flower the next spring. It is the formation of each succeeding tuber by the side of the last that gives these Orchises the name of "Walking plants." It is a distinct way of travelling, though certainly not a quick one.—D. S. Fish, in *The Garden*, Jan. 23, 1904, p. 64.

PAPHIOPEDILUM × MORGANIÆ.

THE annexed figure represents the beautiful Paphiopedilum × Morganiæ, a hybrid which was raised by Messrs. James Veitch & Sons, from P. superbiens ♀ and P. Stonei ♂, and dedicated to Mrs. Morgan, of New York. It flowered for the first time in 1880, and received a First-class Certificate from the R.H.S. in July of that year. For a long period it was unequalled among hybrids of the genus, but now a formidable rival has appeared in the person of a hybrid between P. superbiens and P. Rothschildianum. The two are, of course, quite distinct, though they bear

FIG. 15. PAPHIOPEDILUM × MORGANIÆ.

a considerable resemblance to each other, and are extremely effective when well grown. It is rather curious that when the present hybrid appeared a certain resemblance to the rare P. Stonei platytænium was observed, and it was even suggested that the latter might be a natural hybrid with the same parentage, which, however, is clearly impossible. Our figure is taken from the new edition of *Orchids, their Culture and Management*, revised by Mr. H. J. Chapman, and we are indebted to the publishers, Messrs. L. Upcott Gill, for the loan of the block.

CALENDAR OF OPERATIONS FOR FEBRUARY.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE temperatures and general management of the plant for this month will differ but little from that previously advised, viz., treating them liberally in the matter of air, warmth, and moisture, as far as the outside conditions will permit.

The preceding month was remarkable for its variation of weather, and fluctuations of temperature, so that great care was necessary in manipulating the heating apparatus, which is one of the chief mainstays during the winter season. The fog, too, did its worst, and I do not remember having such a loss of bloom in this district before. Among the many blooms spoiled were Lælia anceps, Phalænopsis, Cattleya Trianæ, Dendrobiums. and many Lælio-cattleya hybrids just about to open. With the advance of the present month, however, the days will lengthen, and a corresponding increase of light may be expected, which will be very welcome. As the days lengthen and the light increases, so may the thermometer be allowed to rise gradually, and a little more moisture be supplied, which will tend to encourage renewed activity. Everything in this direction, however, should be done gradually, or the result will be far from satisfactory, as the weather is not yet to be relied upon; a spell of warm spring-like weather may be followed by another nip of winter.

It is at such times that plants, having been unduly hastened into growth, receive a check, from which perhaps they may not recover. The success attending plants during the winter in all departments depends largely upon the health and vigour they possess, and no plant can remain vigorous if the compost in which it is growing is decayed, and it follows that the roots also will be more or less in a bad state. When such is the case, a very little drought is sufficient to cause exhaustion, shrivelling, loss of leaves, &c. Any plant having a good supply of strong healthy roots, must necessarily be in good compost, and is pretty sure to go on all right with good treatment, and continue to improve and increase in size. In order to arrive at this result, neither excessive drying up in winter, nor excessive watering during summer, is desirable: all that is required being a common-sense method of treatment, which should be one of moderation at all times.

Under such circumstances strong plants will thrive, but it is the weakly ones which give the greatest trouble, and these are apt to go from bad to worse during the winter time, unless specially looked after. To illustrate this, let us suppose we have two choice Lælio-cattleya hybrids: one is in vigorous health with plenty of roots, in a compost sweet and good, the other a weakly plant, having little or no roots, although the compost in each case

may be the same. The probability is that the latter plant has been allowed to get bad before it was attended to and repotted, whereby the period of convalescence will be greatly prolonged. It is therefore natural that such a plant will demand more attention at all times. For instance, a little more water during the resting period would be required, to prevent unnatura shrivelling; it would require to be kept specially free from insect pests. and not subjected to so much bright sunshine. It is such plants as these that require to have special attention, if they are to revive and take their place amongst those in the front rank. They should, if possible. be placed at some convenient position so that their requirements can be better supplied.

The beautiful family of Dendrobiums are now coming on quickly, and these will for some time to come make a great display. Where good growth was obtained last year, and afterwards properly ripened, the flower buds will now be in a more or less advanced stage. On no account force them forward too quickly, as the majority of late winter and spring flowering varieties develop much better and finer if brought along quietly, in a temperature of about 60°, giving just enough water at the roots and in the atmosphere to keep the pseudobulbs plump. With Dendrobes it is as yet a little early to do very much repotting, but there are some cases where a start can be made, so that as many as possible may be got off hand. The seedlings which are yet too small to flower may be done, and gently started into growth. Then again there may be others which are not intended to flower, because they are not strong enough, and these should have attention, whilst the remainder will require to be taken in hand as soon as deemed safe after the flowering period is over. With newly potted plants the watering should be done with great care until the new growth gets well up, and the new roots take a good hold of the new compost. Let the temperature be warm and genial, say between 60° and 70°, so that healthy and sturdy growth may be encouraged. Dendrobiums in general do best suspended in either small pans or baskets, as good results are more certain when kept to small receptacles. A suitable compost may consist of equal part peat, leaf soil, and sphagnum moss. The old back pseudobulbs are of little service after the third and fourth year, and may be readily detached from the plant. These old bulbs will mostly propagate freely if cut in lengths of about three inches, and laid on fresh sphagnum moss, and kept moist. The small plants resulting will in about two years be sufficiently large to again replace the old plants, thus keeping up a good supply of nice healthy young stock.

The Mexican Lælias are now past. They have made a very bold show for the last six weeks, and it is not easy to find a more useful Orchid, providing that the plants are well grown; if not, they are not nearly so

satisfactory. Their culture is, on the whole, easy, if treated in accordance with their very simple requirements. There must not be too much coddling; nor should they be starved for the want of water, or other necessaries, such as repotting, &c., when required. Occasionally we get examples where the new growth, or rather the last made pseudobulb, overhangs the side of the pot, and the new roots are consequently growing out into space, where they often sooner or later come to grief. The ordeal of flowering to such plants is most exhaustive, and they will sooner or later collapse. Unless Lælias have overgrown their receptacles, once in about three years is often enough to furnish new materials throughout, all else that is required being an occasional top dressing. Should any of the plants require attention, either in the way of repotting or top-dressing, it should be proceeded with during this month or next. All the Mexican Lælias require but little water during the winter to keep them plump, but, like Cattleyas, they should have enough to do this without signs of unduly shrivelling. They require plenty of sunlight, with an abundance of air, which will all tend to keep them robust.

Cattleya Trianæ and its varieties will be at their best during this month. It forms a most beautiful and useful species, and is one of the freest of Cattleyas to grow and flower. It soon commences to root and grow after flowering, when repotting or top-dressing should be attended to. C. Percivaliana, although the flower is very rich and beautiful, cannot be compared to the first-named for usefulness. Sometimes this species fails to produce its flowers satisfactorily, even after making good robust pseudobulbs, with plenty of sheaths. By keeping the plants rather dry and warm, however, the failure is not so great; yet there are some which fail to come, and this circumstance makes it appear to the more susceptible to atmospheric conditions than is Trianæ.

There are a number of Oncidiums which prefer the Cool House culture, making growth much stronger and freer than when given more heat. One of these is O. serratum, which has just gone out of flower, and is commencing to make fresh growth. In habit it is similar to O. macranthum, and enjoys the same sort of treatment, growing at the coolest part of the house. When grown in pots in leaf soil, surfaced over with fresh chopped sphagnum moss, they soon become fine specimens. The treatment is the same as for other cool Orchids. Water with care during the winter, letting the material appear dry for several days before giving water: at the same time taking care not to get the atmosphere too moist, by damping down too often. If the plants have been awakened, it may sometimes be advisable not to damp the floors for a day or two afterwards, until they get somewhat dry again. In any case once a day will be found often enough for this operation. Oncidiums delight in

abundance of air at all times when the outside conditions permit. O. superbiens, O. lamelligerum, and O. monachicum are all similar in growth and general requirements.

OBITUARY.

CONSUL F. C. LEHMANN.—We alluded at page 31 to a brief notice in the *Gartenflora* that Consul F. C. Lehmann had been drowned in the river Tibique, in Columbia, and although we have not yet heard any further particulars we may now give some account of the deceased gentleman's work in connection with Orchidology. It would appear from a paper published by Reichenbach in 1878, entitled "Orchidaceæ F. C. Lehmannianæ ecuadorenses" (*Otia. Bot. Hamb.* pp. 3—30) that Lehmann first went to Western South America as a collector for Messrs Hugh Low & Co., then of Upper Clapton, and he evidently made a good collection of dried plants, which were described in the paper in question. Among them we find a considerable number of novelties, no less than eight being Masdevallias, which genus became one of his special favourites. One of these was dedicated to him, under the name of Masdevallia Lehmanni. Species of Cranichis, Cycnoches, Epidendrum, Maxillaria and Odontoglossum were also dedicated to him in the same paper. The date of his journey seems to have been about 1876, for in 1897 he spoke of his twenty-one years of travel in the Andes (*Gard. Chron.*, 1897, i. p. 345). Subsequently he became German Consul in the Republic of Colombia, and he continued to pay great attention to Orchids, indeed we find him offering them for sale in large quantities, but he also made a fine collection of dried specimens, in Guatemala, Costa Rica, Colombia and Ecuador, which have been rather recently worked up (Lehmann and Kränzlin in *Engl. Jahrb.* xxvi. pp. 437—502), and, as might have been anticipated, contained a large number of novelties. One of them, described as a new genus allied to Epidendrum, was dedicated to him under the name of Neolehmannia. His knowledge of Andine Orchids was most extensive, but his writings were not numerous, two papers that occur to us being on Two new Coryanthes (*Gard. Chron.*, 1891, ii, p. 483) and on Trevoria Chloris (*l.c.*, 1897, i, p. 345). The latter he described as "the second of a number of new genera I have discovered during the twenty-one years of my travels in the Andes." He also supplied the notes on the geographical description of the "Monograph of Masdevallia," issued by the Marquis of Lothian, and illustrated by Miss Woolward, and from these it may be seen how extensive his knowledge of the plants in their native habitat was. He introduced a number of interesting Orchids to cultivation, among them being Ada Lehmanni (Rolfe in *Gard. Chron.*, 1891, ii., p. 34), Trevoria Chloris (*Bot. Mag.*, t. 7805).

Sievkingia Reichenbachiana (l.c., t. 7576), Masdevallia deorsum (l.c., t. 7766), Coryanthes Wolfii and C. Mastersiana (*Gard. Chron.*, 1891, ii. p. 483). Lueddemannia triloba (*Kew Bull.*, 1895, p. 283), Scelochilus carinatus (*l.c.*, p. 284), Polycycnis Lehmanni and Lueddemannia Lehmanni. Doubtless there are many others, but enough has been said to show the importance of his work.

THE GENUS MYSTACIDIUM.

THERE is a genus of the Angræcum group whose limits have never been satisfactorily defined. It was founded by Lindley in 1836 (*Hook. Comp. Bot. Mag.*, ii., p. 205) to contain the South African plant then known as Angræcum capense, but which was described by the younger Linnæus as early as 1781, under the name of Epidendrum capense (*Suppl. Pl.*, p. 407). The plant was called Mystacidium filicorne, and the resemblance in habit to Angræcum, as well as the differences in the structure of the pollinaria, were pointed out. Harvey added two additional South African species in 1863 (*Thes. Cap.*, ii., pp. 47, 48, tt. 173, 174), when he also figured the original species, (t. 175), and Ridley five others from Madagascar in 1885 (*Journ. Linn. Soc.*, xxv., pp. 488-490). Reichenbach in 1864 reduced Mystacidium to Aëranthes (*Walp. Ann.*, vi., p. 899, mis-spelt "Aëranthus"), on account of some similarity in the pollinarium, at the same time also adding Aeonia, and the American species now referred to Campylocentron, and partly to Dendrophylax, but, as Bentham afterwards pointed out, the two are very different in numerous particulars. Bentham estimated the species of Mystacidium at about twenty. In revising the Orchids of Tropical Africa I found nineteen species belonging to that area, and there are probably as many more in the Mascarene Islands and South Africa, while, curiously enough, there is one outlying species in Ceylon. The genus is easily separated from Angræcum by having two distinct glands, to which the pollinia are attached, each by its own separate stipes, while in Angræcum there is only a single stipes and gland. The allied genus Listrostachys is characterized by having two distinct stipes attached to a single gland. These differences are extremely well marked, and are to some extent connected with differences in the habit of the plants, though the position of a few species remains uncertain until the pollen masses can be examined. Listrostachys and Mystacidium are indeed more easily separated from Angræcum than is the Asiatic genus Saccolabium, for the pollinia are practically identical in the two, and although the latter has a saccate lip, and obtuse sepals and petals, there are species of Angræcum which also have these characters.

In fact, Angræcum imbricatum, Lindl., has been described as a new species of Saccolabium (S. Barbeyæ, Kranzl.), with which genus it agrees in the characters mentioned. In the same way the Mascarene Listrostachys bracteosa, Rolfe, was described as a new species of Saccobium (S. squamatum, Frapp.), as has already been pointed out (*O.R.*, x. p. 296). Of species not previously referred to Mystacidium, owing to the confusion with Aëranthes already mentioned, are the following:—M. Curnowianus (Aëranthes Curnowianus, Rchb. f.); M. Germinyanum (Angræcum Germinyanum, Sander, *Bot. Mag.* t. 7061); M. gladiifolium, (Angræcum gladiifolium, Thou.; M. Leonis (Aëranthus Leonis Rchb. f. *Orch. Alb.*, v. t. 213); and M. sesquipedale (Angræcum sesquipedale, Thou., *Bot. Mag.* t. 5113).

R. A. ROLFE.

VANDA HOOKERIANA is a tall, scrambling species, with cylindrical leaves and short spikes of flower. These are very beautiful: the sepals and petals whitish, with spots of purple; the lip purple, with crowded spots of a deeper hue. No one should attempt the culture of this species who has not ample heat at command. It grows in sweltering heat and moisture, and except for a week or two after being planted should be fully exposed to the sun's rays. In many collections it is the custom to cut the stems into lengths, and plant these in beds of sphagnum in a house fully exposed to the sun. A luxuriant growth and abundant supply of flower is thereby assured.—B. G. in *Journal of Horticulture.*

CŒLOGYNE DAYANA.—Mr. A. J. Manda sends the following interesting communication to the *Florists' Exchange*:—The photograph, from which the illustration herewith was made, is of a single specimen plant flowering lately in the collection of Mrs. C. F. Erhart, 270, Washington Avenue, Brooklyn, N. Y. The plant carried 27 spikes, with 43 to 51 flowers to a spike, making a total of 1,247 flowers, and is a great credit to the enthusiastic and zealous gardener, A. Welsing, under whose care the specimen has been for the past eleven years. Such fine specimen Orchids are seldom seen, especially taking into consideration that when this plant was bought about twelve years ago at an auction, it had then just two small bulbs and one lead. It is grown in an octagonal basket two feet across, potted in fibrous peat and moss, with additional pieces of charcoal and broken crocks. The plant is elevated on a high stand close to the roof, where it enjoys a quantity of moisture and heat. It is a native of Borneo and one of the prettiest of the Cœlogyne tribe.

CATTLEYA × MOLLIS VAR. LOIS & C. × THAYERIANA.

IN the last volume of the *Orchid Review*, p. 330, mention is made of Cattleya × Lois var. mollis, and the writer expresses the opinion that there is very little evidence of the diphyllous parent, C. superba splendens, and remarks:—"It is most like C. Gaskelliana in shape, in the nearly entire lip, and the mauve-lilac sepals and petals." I think Capt. Holford and his able cultivator will agree with me that the plant in question was raised here, and flowered first in the collection at Westonbirt—as also happened more recently with Lælio-cattleya × Milton. The object of this note, however, is to straighten out the parentage of the Cattleya × mollis. It seems to have been overlooked that the C. Gaskelliana used was the true variety virginalis; hence all the colour, apart from yellow and white, is due to the C. superba splendens, which was the pollen parent. Among the fifty plants raised from this cross there are some that have almost every mature growth twoleaved, and these generally show distinct traces of the influence of C. superba in the lip, being distinctly three-lobed. There also exists a great variation in colouring in individuals. Some are remarkably fine, and, from the published accounts, Capt. Holford's plant must be one of the better forms.

When a quantity of plants result from a cross between distinct sections of a genus, it is a most wonderful revelation to the observer to see the great divergence in form and colouring. This is remarked by all who have seen our seventy plants of C. × Thayeriana in bloom. The parents were C. intermedia × C. Schrœderæ alba, and about three-fourths of the plants produce flowers of a lovely uniform lilac, with no accentuation on the apex of the lip. In the balance there are varying degrees of amethystine marking, from the smallest dash of colour, as in the type plant, to heavy inverted V-shaped masses of colour. This has led many to remark that no one would credit their common origin were it not well authenticated. There is also a similar variation in the shape of the labellum. Many are distinctly three-lobed, while others are as finely rounded as any C. Schrœderæ. In some the side lobes do not fold over the column, but only meet at the base: others overlap nearly their whole length.

Last March we had over 200 expanded flowers of C. × Thayeriana, and as by actual test it lasts longer in perfection than any other Cattleya known here, a fine opportunity was enjoyed during the six weeks for study and comparison. We hope next flowering season to preserve a series of flowers for your inspection, showing the variation mentioned above. I enclose a photo of the group of C. × Thayeriana taken last April, when over 200 blooms were open. It is hardly suitable for reproduction, but I thought you would like to see it.

E. O. ORPET.

So. Lancaster, Mass., U.S.A.

The Photograph sent shows a very remarkable group, but, as Mr. Orpet remarks, is hardly suitable for reproduction. We, however, give an illustration of a single flower, from a photograph previously received from Mr. Orpet. This beautiful hybrid was originally described and figured in *American Florist* for March 24th, 1900 (vol. xv, p. 1003), when its history was thus given by Mr. Orpet:—"The cross was made March 26th, 1896, the seed sown April 14th, 1897, and the first of the plants is now in bloom. It is a desirable plant, being a great improvement over the seed-parent,

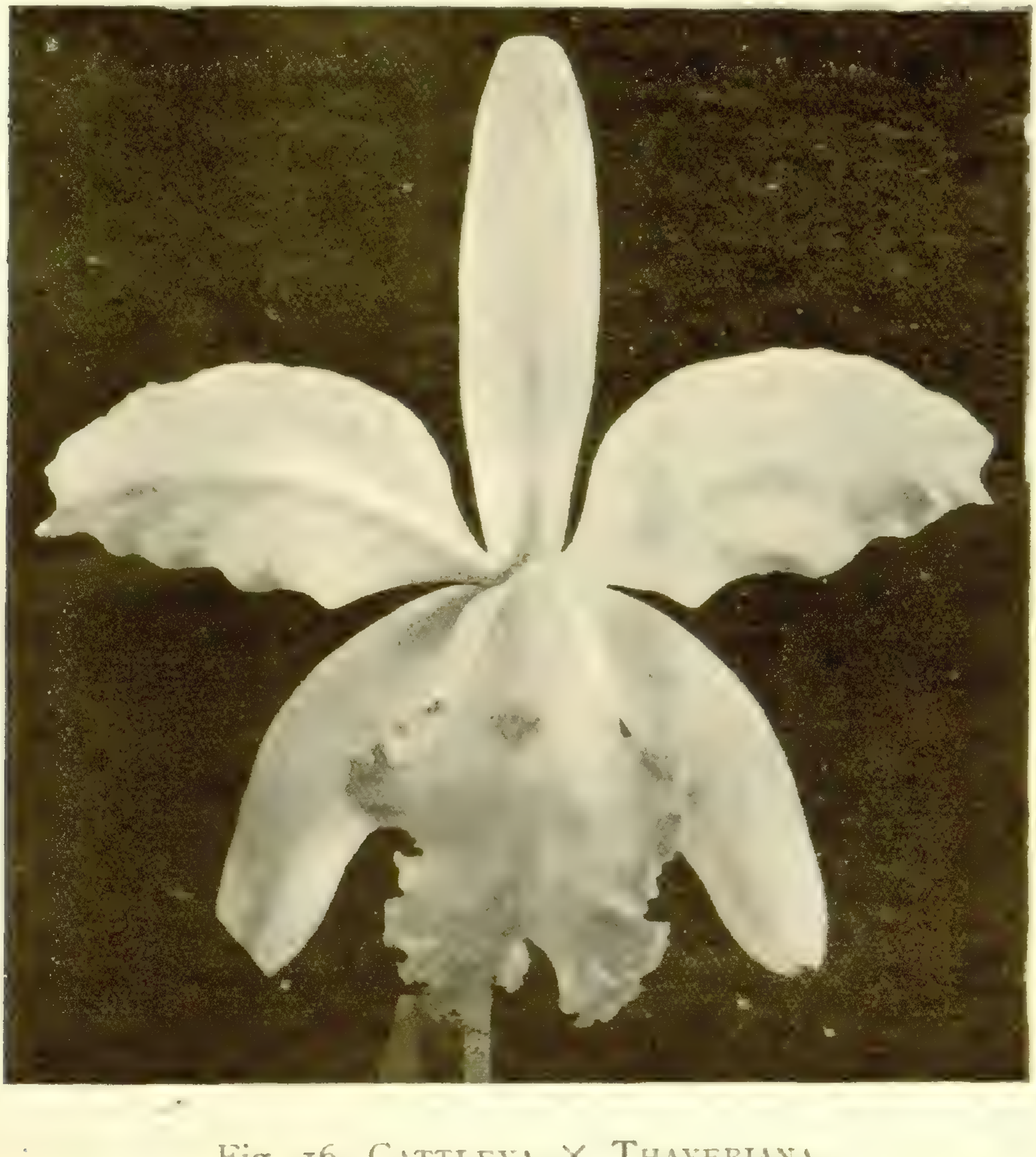

Fig. 16. CATTLEYA × THAYERIANA.

C. intermedia. The colour is a delicate pink throughout, the tube of the lip being primrose-yellow, with a purple irregular shaped blotch in the centre." The period which elapsed between sowing the seed and the appearance of the first flower was rather short for a Cattleya. It is evidently a very fine thing, and we shall be most pleased to see the promised series of flowers. A photograph showing three or four of the most distinct forms would be interesting.

SOCIETIES.

ROYAL HORTICULTURAL.

THE first meeting of the year of the above Society was held at the Drill Hall, Buckingham Gate, Westminster, on January 5th, when there was a very good display of Orchids for the season, the majority, however, being Cypripedes, which are invaluable as winter-flowering plants.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, Dublin, showed Bulbophyllum micropetalum, Epidendrum Cooperianum, Maxillaria cucullata and M. macrura, each of which received a Botanical Certificate, these being the only certificates awarded at the meeting.

Mrs. Haywood, Woodhatch, Reigate (gr. Mr. Salter) sent Cypripedium × Hitchinsiæ maculatum and C. × Mrs. Haywood (× T. B. Haywood × Charlesworthii), a very distinct hybrid of dark colour, in which the influence of C. Drurii was very apparent.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), exhibited a good series of cut spikes of Calanthe × Regina, C. × Bryan, C. × Wm. Murray, C. × Veitchii, C. × Sandhurstiana, and some Cypripediums, arranged with maidenhair fern.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood) showed Cypripedium × gigas Rosslyn variety, C. insigne Monkholme var., and C. i. Rosslyn variety.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), exhibited Cypripedium × Hera Charlesworthii, C. × Celeus superbum, the handsome C. × rubescens Ranjitsinhji, and Lælia autumnalis Westfield variety, having a large dark rose flower with a white base to the lip.

H. Whateley, Esq., Spring Gardens, Kenilworth, showed Cypripedium × Varney and C. × Amy Robsart.

Messrs. Charlesworth & Co., Heaton, Bradford, received a Silver Flora Medal for a fine group, containing Cypripedium × Enid (Spicerianum × bellatulum), C. insigne Dorothy, C. × aureum, C. × Hera Lucienianum, C. × Dora Crawshaw (bellatulum × Charlesworthii moosaicum), Odontoglossum × Hallio-crispum, O. × loochristiense, O. crispum, Lælio-cattleya × Andromeda (L. flava × C. aurea), L.-c. × Violetta, several good L.-c. × Charlesworthii, and others.

Messrs. Sander & Sons, St. Albans, gained a Silver Flora Medal for an excellent group, containing Cypripedium × Masterso-villosum, C. × robustum, C. × Annie Measures, C. × aureum, three good plants of C. insigne McNabianum, a fine dark form, Cymbidium Tracyanum, Mazillaria elegantula, a good specimen of Gomesa planifolia, and Angræcum sesquipedale.

Messrs. J. Veitch & Sons, Chelsea, were also awarded a Silver Flora

Medal for an extremely good group of hybrids, including Cypripedium × Niobe, C. × Prospero, C. × Euryades, C. × Baron Schröder, Lælio-cattleya × Cappei, L.-c. × Coronis, L.-c. × Epicasta, L.-c. × Clonia, L.-c. × Bryan, L.-c. × Pallas, Cattleya × Miranda, Sophro-cattleya × Saxa (S. grandiflora × C. Trianæ), Masdevallia × Imogen, and Epidendrum × Endresio-Wallisii.

Messrs. H. Low & Co., Enfield, showed the beautiful Cypripedium callosum Sanderæ, C. insigne Sanderianum, and C. × Minos Low's variety.

Messrs. Stanley, Ashton & Co., Southgate, exhibited the natural hybrid Miltonia × Cogniauxiæ Stanleyi (Regnelii × spectabilis Moreliana), the flower being deep purple and most like the former in shape.

THE report of the Scientific Committee of the same date contains the following:—

ORCHIDS MALFORMED.—Mr. Bidgood, Saltwell View, Gateshead, sent some excellent coloured photos of Orchids, showing certain peculiarities: (1) An Odontoglossum citrosmum had the basal flower of a spray with two well formed columns, three labella, and eight other perianth segments. The ovarian section had no ovary cells, but numerous clusters of fibro-vascular cords, showing that it was a "multifold" flower, the cords of each perianth-segment branching and entering two, instead of a single segment: so that, excepting one, all the parts of the perianth were doubled. (2) Phaius Humblotti × P. Wallichi, received from Mr. Cookson's collection. One photo showed the inflorescence, one flower of which had the lower portion of one of the lateral sepals petaloid like a labellum: the placenta of the ovary next to the position of the labellum was absent. A second flower had no labellum, the lateral sepals were fused, making one wide, median sepal, and both the lateral petals were slightly labellate.

ROYAL HORTICULTURAL.

A SECOND meeting was held on January 26th, when a much finer show of Orchids was seen than on the last occasion.

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), exhibited a magnificent group of Dendrobiums, extending the whole length of the central staging of the Drill Hall, to which was deservedly awarded a Gold Medal. It included many varieties of D. nobile, D. n. Ballianum, and D. n. Colmanianum being noteworthy; also D. × Othello giganteum, D. × Apollo, D. × Snowflake, D. × Rubens grandiflorum, D. × Ainsworthii, D. × splendidissimum, D. × Artemis, D. Curtisii, D. × pallens, D. × Schneiderianum, D. × Juno, together with some well-flowered Lælia anceps, including L. a. Stella, L. a. Hilliana enfieldense, L. a. Sanderiana,

L. a. Mrs. Jeremiah Colman, also Cymbidium Tracyanum, and other plants, the whole making an extremely fine display.

Lady Plowden, Aston Rowant House, Oxford (gr. Mr. Clark), was awarded a Silver Banksian Medal for a good group of well-grown and heavily-flowered Lælia anceps.

W. M. Appleton, Esq., Weston-super-mare, showed Cypripedium × Mons. de Curte, C. × Garret A. Hobart (Lathamianum × insigne giganteum), C. × Edithæ (bellatulum × Chamberlainianum), and C. × Morteni (Leeanum Masereelianum × Chamberlainianum). The last-named, which received an Award of Merit, was a fine hybrid, retaining much of the Chamberlainianum habit, but the flowers were more intermediate in character.

W. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed Lælia anceps Schrœderæ Theodora, to which an Award of Merit was given. This was a very handsome form, having the sepals and petals white, tinged with rose at the tips, and the front of the lip dark claret-purple.

M. Jules Hye de Crom, Ghent, sent the handsome Cypripedium × Madame Jules Hye.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), exhibited Cypripedium × Almos and a fine C. × Lathamianum.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), showed Lælio-cattleya × luminosa, Rosslyn variety, Lælia autumnalis alba with a fine spike of six flowers, and Cypripedium × Edithæ.

The Right Hon. Lord Rothschild, Tring Park (gr. Mr. Hill), sent a fine spike of Phalænopsis amabilis Rimestadiana, bearing eight fine flowers.

J. Rutherford, Esq., M.P., Beardwood, Blackburn (gr. Mr. Lupton), showed two plants of Odontoglossum × beardwoodense (elegans Eastwood Park variety × Pescatorei), but the Committee expressed some doubt about the parentage.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), sent spikes of the handsome Odontoglossum Pescatorei Veitchianum, O. P. Schrœderianum, O. P. melanocentrum, and O. crispum Stevensii.

G. Singer, Esq., Coundon Court, near Coventry (gr. Mr. Collyer), exhibited a good group of Cypripediums, containing C. × Deedmanianum, C. × Lathamianum, C. × Penelope, (Lawrenceanum × Charlesworthii), C. × chrysotoxum var. Earl Leofric (villosum giganteum × Lathamianum superbum), and others.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a splendid group, consisting chiefly of hybrids, and secured a Silver-gilt Flora Medal. It contained a quantity of the bright orange Lælio-cattleya × Charlesworthii, L.-c. × luminosa, L.-c. × Cappei, L.-c. × Andromeda, L.-c. ×

Sunray, Sophro-lælia × Psyche, Cattleya × Enid, Cypripedium insigne McNabianianum, C. × Lilian Greenwood, C. × Helen II., varieties of C. × Hera, and some Odontoglossums, O. × Queen Alexandra being very fine. An Award of Merit was given to Lælio-cattleya × Myra Charlesworthii (L. flava × C. Trianæ), a handsome form having bright chrome-yellow sepals and petals, and the lip ruby purple.

Messrs. Sander & Sons, St. Albans, staged an effective group, consisting chiefly of hybrids, to which a Silver Flora Medal was awarded. It contained Lælio-cattleya × Dr. R. Schiffmann (L.-c. × callistoglossa × C. Mendelii), a large and beautiful hybrid having white sepals and petals tinged with purple, and the front of the lip rich purple-claret colour. L.-c. × bletchleyensis vivicans, some good Cypripediums, two fine plants of the handsome Odontoglossum × Wilckeanum, and Chysis × Sedeni.

Messrs. J. Veitch & Sons, Chelsea, also received a Silver Flora Medal for a fine group of hybrids, including Lælia × Olivia, L. × Digbyano-purpurata, Lælio-cattleya × Lucilia, L.-c. × Cappei and variety aurea, Cattleya × Elvina, Dendrobium × Scylla, two plants of Calanthe × gigas, forms of Cypripedium × Leeanum, C. × Prospero, C. × Troilus, C. × aureum virginale, C. × Gertrude, C. × Catherine, and C. × Hera varieties.

Messrs. H. Low & Co., Enfield, exhibited a good group, containing Oncidium ornithorhynchum, Sophronitis grandiflora, Dendrobium aureum, D. Wardianum, Cypripedium tonsum, the handsome C. × Watsonianum (Harrisianum nigrum × concolor), C. × Minos Low's variety), C. × Tityus, C. × Sallieri Hyeanum, forms of C. × Hera Euryades, C. villosum Low's variety, and other plants.

M. Ch. Vuylsteke, Loochristi, Ghent, showed Odontoglossum × Wilckeanum Argus, two plants of O. × loochristiense, and also two of the handsome O. × Vuylstekei.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

THE first meeting of the year of the Manchester and North of England Orchid Society was held at the Coal Exchange, Manchester, on January 8th, and brought together a very good display of Orchids.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent a very interesting group of half-a-dozen home-raised Odontoglossum × loochristiense, from seed sown less than four years ago, a Silver Medal being awarded to Mr. Stevens, in recognition of his skill as a raiser and cultivator of these beautiful plants.

S. Gratrix, Esq., Whalley Range (gr. Mr. G. Cypher), staged an interesting little group, to which a Bronze Medal was awarded, also First-class Certificates of Cypripedium × Minos var. Youngii and C. × aureum

var. Great Rex, and Awards of Merit to C. × Lathamianum West Point var. and C. × Lathamo-Thompsoni.

Mrs. Gratrix showed a well-shaped and distinctly marked form of Odontoglossum crispum called Geo. Cypher, which the Committee desired to see again.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Schill), obtained a Bronze Medal for a good group, and an Award of Merit for Cypripedium × Euryades New Hall Hey var.

W. Laverton, Esq., Victoria Park, Manchester, also received a Bronze Medal for a small group, and an Award of Merit for Cypripedium × Lathamianum Redcliffe var.

A. Warburton, Esq., Haslingden (gr. Mr. Bailey), sent the handsome Odontoglossum crispum Marie.

Messrs. Charlesworth & Co., Heaton, Bradford, sent a choice group, to which a Silver Medal was given, also First-class Certificates to Cypripedium × Dora Crawshaw and Odontoglossum × Wilckeanum Alexandræ, and an Award of Merit to Miltonia × Cognianxiæ.

M. Ch. Vuylsteke, Lochristi, Ghent, received a Bronze Medal for a small group, and a First-class Certificate for the handsome Odontoglossum × Vuylstekei per cultum.

Messrs. J. Cypher & Sons, Cheltenham, obtained a Bronze Medal for a small group, and an Award of Merit for Cypripedium × Charlesianum.

Messrs. Sander & Sons, St. Albans, also staged a small group of Orchids, to which a Bronze Medal was awarded.

Four other small groups were staged by Messrs. John Cowan & Co., Gateacre, A. J. Keeling & Sons, Bradford, D. McLeod, Chorlton, and J. Robson, Altrincham, in each case a Vote of Thanks being accorded.

CYPRIPEDIUM INSIGNE, IN SMALL POTS.—Calling the other day on Mr. Thos. Crosswell, gardener at "Homewood," Beckenham, I was shown six plants in 9in. pots carrying foliage one yard through, as perfect in form as a well-dressed chrysanthemum bloom. The flowers were large and well-developed, averaging about fifty—the one I counted gave fifty-eight, three being twins. The blooms are not staked, but grow out from the foliage in a natural manner, giving a circumference of 12ft. These plants have not been potted for eight or nine years, consequently they are fed on farm drainage, Clay's fertiliser, soot water, and guano—weak and often. These six plants occupy the whole of one side of a span-roofed house, furnishing a supply of choice cut flowers for a long period; some useful plants in 4½in. pots are carrying nine good blooms.—M. W. in *Journal of Horticulture*.

ORCHIDS FROM GATTON PARK.

A BEAUTIFUL series of Dendrobium flowers is sent from the collection of Jeremiah Colman, Esq., Gatton Park, Reigate, by Mr. Bound, cut from the brilliant group exhibited at the R.H.S. meeting on January 26th, to which a Gold Medal was awarded. Among the forms of D. nobile sent are varieties elegans, Ballianum, Ashworthiæ, a very fine white with small rosy tips to the segments, and a very dark maroon blotch on the lip, gattonense, less white than the preceding, and the well-known Cooksonianum and burfordiense, in fine condition. D. × Ainsworthii is good, and the Woodhatch variety has remarkably broad segments. D. × Rubens is represented by three very fine forms, called pulcherrimum, magnificum and elegans, the latter being very rich in colour. D. × Snowflake is said to be hybrid between D. nobile albiflorum and D. × Cassiope, and is a beautiful form most resembling the latter. Other fine things are D. × Schneiderianum. D. × Cybele and var. giganteum, D. × Juno, D. × Curtisii, D. × euosmum, D. × Pitcherianum, and three forms of D. × Ellisii, the whole series affording evidence of excellent culture.

A very fine inflorescence of Cymbidium grandiflorum (Hookerianum), over 2½ feet long, and bearing eleven flowers is also sent. It is the finest of the Asiatic species, and has the reputation of being shy flowering, and even when the spikes are developed the flowers sometimes go off without expanding. In this every flower is perfectly developed, and the inflorescence very handsome.

We may also add that a fine group was exhibited at the R.H.S. meeting on December 15th, and gained a Silver-gilt Flora Medal, though by some oversight it was not included in our report at page 18. It included a brilliant series of deciduous Calanthes, together with some good Cypripediums, the beautiful Lycaste Skinneri alba, and other fine things.

ROMANCE OF A BUTTONHOLE.—In a greenhouse belonging to the Thames Conservancy, in their Kew depot, is a flourishing Orchid which is looked upon by botanists as a rare curiosity. The flower was worn in the buttonhole of an official at a Masonic entertainment over seven years ago, and was about to be cast away in a withering condition, when a gardener asked for it. The flower was taken in hand with a view to resuscitation, and the ingenious gardener bound up the stem of the flower with copper wire, fixing it on to virgin cork, and covering up the cut stem with sphagnum moss. To the surprise of everyone, the dying stem revived, and is at the present time in a flourishing state. It is one of the very rare instances of a cut Orchid forming for itself a new root.—*Gardening World*, January 23, 1904.

R.H.S. ORCHID COMMITTEE.

THE following constitute the Orchid Committee of the Royal Horticultural Society for the current year. (New Members distinguished thus "*"):—

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WELLESLEY, FRANCIS, Westfield, Woking.
WHITE, W. H., Burford Lodge Gardens, Dorking.
YOUNG, W. H., Clare Lawn Gardens, East Sheen, S.W.

EPIPENDRUM PRISMATOCARPUM.

The present figure represents an inflorescence of Epidendrum prismatocarpum from the collection of J. J. Neale, Esq., Lynwood, Park Road, Penarth. The photograph was taken by Mr. Neale's daughter, together with one showing the entire plant bearing three fine racemes, and forming a very effective picture. The former, however, was selected because it shows the details of the flower better. The species was originally discovered by Warscewicz, in 1849, on the Chiriqui Volcano, Central America, at 5,000 feet elevation, but does not appear to have been sent

FIG. 17. EPIDENDRUM PRISMATOCARPUM.

home alive, for it is said to have been introduced to cultivation by Bridges, in 1856. It was figured in the *Botanical Magazine*, in 1862 (t. 5336), when it flowered in the collection of G. Reed, Esq., Burnham, Somerset, and with Messrs. Hugh Low and Co. It bears long erect racemes of numerous flowers, having pale greenish yellow sepals and petals, more or less spotted with purple, and a trulliform acute lip, rose-purple in colour tipped with

yellow, and bearing a pair of rounded whitish auricles at the base. It is a very striking species, and very effective when well grown.

THE HYBRIDIST.

PAPHIOPEDILUM × VICTORINUS.—Two forms of a handsome hybrid between Paphiopedilum insigne punctato-violaceum ♀ and P. × Calypso Oakwood var. ♂ are sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool (gr. Mr. Poyntz). They have retained much of the general character of the seed parent, but the dorsal sepal is white, except for a small light green area at the base, and heavily blotched with dark purple, these being modified to purple brown on the green area. The staminode, petals and lip all bear a general resemblance to those of the seed bearer, though in one flower they are much paler than in the other. The pollen parent was derived from P. Spicerianum and P. Boxallii, but their influence is not very obvious in the new hybrid, and is chiefly seen in an increased white area on the dorsal sepal, with rather more spotting, but neither the Boxallii villosity nor the very distinct staminode of Spicerianum can be traced. The cross was made in January, 1897, the seed sown thirteen months later, and now the first flowers have appeared. It is a very promising hybrid.

PAPHIOPEDILUM × VENILIA.—A hybrid from the same collection, derived from P. Victoria-Mariæ ♀ and P. villosum ♂, and most like an enlarged edition of the former, but with broader petals, and other traces of the influence of P. villosum. The spike sent is twin-flowered.

LÆLIA × ACUMINATO-ANCEPS.—Under this name we have received the inflorescence of an interesting hybrid from M. Ch. Maron, of Brunoy, France. L. anceps was the pollen parent, and the inflorescence and bracts show much of the influence of this parent, though the flowers are much smaller, being about $3\frac{1}{2}$ inches in expanse, with the sepals and petals light rose-purple in colour, and the lip showing much of the shape and markings of L. anceps. M. Maron states that the bulbs are in the way of L. acuminata, but larger, being about 2 inches high, and the leaf 7 inches long by $1\frac{3}{4}$ inches broad, bright green and fleshy.

POLLEN OF PAPHIOPEDILUM × NIOBE.

THIS season I again attempted to utilize my large plant of Paphiopedilum × Niobe as a parent. I may add it is in robust health. With this object I crossed two blooms of P. Charlesworthii, in each case using both pollen masses of a P. × Niobe to each flower. I also crossed blooms of P. insigne punctato-violaceum, and P. insigne Balliæ, using four pollen masses of

P. × Niobe to each flower. In no one case was I successful, the pods decaying within a few weeks after the operation.

On the other hand, I crossed five blooms of this same P. × Niobe, two with pollen of P. Charlesworthii, two with that of P. insigne punctato-violaceum, and one with P. insigne Wm. Millie Dow, using two pollen masses in each instance. In addition, I crossed the bloom of another plant of P. × Niobe with two pollen masses from a flower of P. × Lecanum giganteum, G. S. Ball's variety. As far as can be judged at the present time, these operations, using P. × Niobe as the seed parent, have been successful, the pods appearing to be perfectly sound.

It seems somewhat curious, and not easily accounted for, that the pollen of P. × Niobe should prove such a failure. Probably everyone who has attempted to use × Niobe pollen has noticed how hard and non-adhesive it is, and perhaps this may account to a great extent for its inefficacy. Paphiopedilums × Norma, × Pelops, and × Priam may, however, be cited as instances in which P. × Niobe has been recorded as the pollon parent.

Liverpool. REGINALD YOUNG.

ORCHIDS IN SEASON.

LYCASTE SKINNERI is a very useful decorative plant at this season, but is not grown so extensively as its merits deserve. Four very handsome forms are sent from the collection of J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitelegge). One has blush pink sepals, and rose-coloured petals, while the lip has a rose-coloured blotch on the front and side lobes. A second is paler throughout and has scarcely a trace of pink on the lip, while in the third the petals and lip are only a shade darker than the sepals. The fourth is the chaste L. Skinneri alba, and forms a very charming contrast with the other three forms. Mr. Bradshaw remarks that he cannot understand why the species is not more commonly grown, unless it is that the flowers bruise so easily. It is certainly very handsome, and easily cultivated, but the fact that the flowers do not stand up above the foliage tells somewhat against it.

Another large and very handsome form is sent from the collection of A. E. Bainbridge, Esq., of Newcastle-on-Tyne, by Mr. Bell. The petals and lip are of a very rich purple-rose almost throughout, and contrast very effectively with the blush pink sepals.

These very handsome forms of the same species are sent from the collection of Captain Holford, Westonbirt, Tetbury, by Mr. Alexander. One, called variety atrosanguinea, has the lip of the richest purple-crimson throughout, except the yellow crest, the petals rose-pink, with darker veins, and the sepals blush pink—a very handsome form. A flower of the beauti-

ful Lælio-cattleya × Cappei var. Afterglow is also sent, from a spike bearing thirteen flowers, which must have presented a fine sight, the full expanse of the one sent being over six inches.

A flower of Paphiopedilum × Chamber-Leeanum is sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool. It is most like the Chamberlainianum parent, but is considerably modified in shape, though it shows no white on the dorsal sepal, a character present in both the parents of P. × Leeanum.

It may be interesting to note that Mr. Young flowered a plant of Paphiopedilum × Maudiæ in November last, and in December he cut the flower, and placed it in a tube of water in the same house, after which it remained in perfection for over a month. It would appear that it is a good thing for cutting, like many of its allies.

A particularly large and handsome flower of Paphiopedilum × Aphrodite is sent from the collection of F. M. Burton, Esq., Highfield, Gainsborough. It is cut from a twin-flowered scape, and the plant is said to be very strong, and most resembles P. Lawrenceanum.

A very beautiful dried scape with three flowers of Lælio-cattleya × Bowri-albida is sent by Mr. E. O. Orpet, So. Lancaster, Mass., U.S.A. The scape somewhat recalls Lælia albida, except that the flowers are larger, and of a very pleasing light rose shade. It is a very beautiful hybrid.

PAPHIOPEDILUMS FROM BURY.

As evidence of the value of the genus Paphiopedilum as winter-blooming plants, a fine series of flowers is sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers. The majority are hybrids, the species being represented by two good forms of P. insigne, one of them having a large amount of spotting on the petals, while the blotches of the dorsal sepal are very large. There are three good forms of P. × Lathamianum, the variety rubrum having a large amount of purple on the lower part of the dorsal sepal. One called P. × Thompsonianum has all the characters of the latter, of which we regard it to be a very large and handsome form, the petals and dorsal sepal being very broad, and the latter well suffused with purple at the base. P. × nitens Arle Court var. is a very good form of this hybrid, while P. × Sallieri aureum, and P. × Mons. de Curte are too well-known to require description. The latter is splendidly developed. A form of P. × Hera, called Euryades Low's variety, is particularly handsome, having the dorsal sepal very heavily blotched, and the petals broad and richly coloured. P. × Leeanum × Spicerianum shows a considerable return to the latter species, and has lost all trace of spotting in the dorsal sepal, while P. × Leeano-Calyso is

much like a form of P. × Leeanum closely dotted with purple all over the dorsal sepal. P. × Crossianum Bridge Hall seedling has the petals and lip very richly coloured, and the former well spotted with brown. Lastly, may be mentioned two good forms of P. × calloso-Warneri, the variety atrorubens being very dark and richly coloured.

ODONTOGLOSSUM × LOOCHRISTIENSE.

IT is interesting to hear of another batch of seedlings of this fine hybrid. A series of five flowers has been sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens, who states that they are home-raised. They show a considerable amount of variation. One may be compared to a light yellow form of O. triumphans, with few spots, but considerably modified by the influence of O. crispum in the column wings and crest of the lip. The second has more dark spotting, and larger column wings than the last, while the lip is more like O. triumphans. The two next are similar, except that the brown blotches cover about half the area of the segments: while the last is very heavily blotched and remarkable for being very evenly distributed over the flower. All of them are very beautiful. Mr. Stevens states that a number of seedlings are showing for flower, one of them actually being flowering from the first bulb. We shall hope to see and hear more of them in due time. Our readers will, of course, remember the illustration of the group of 600 seedlings which appeared at page 41 of our last volume.

VEGETABLE CURIOS.—At the usual monthly dinner of the Horticultural Club held on November 10th last, a paper bearing the above title was read by Mr. G. S. Saunders, F.L.S., and the paper was rendered the more interesting by the exhibition of a large number of beautifully-executed drawings of specimens which had come under Mr. Saunders' personal notice. A considerable number of these represented curious divergences from the normal structure of Cypripedium flowers, which appear peculiarly prone to their production, the various parts of the flower appearing abnormally changed in form, or even duplicated or reversed, although in the large majority of cases the modifications can be traced as mere change of form of normal parts, and rarely as actual additions. In these cases of simple malformation, the peculiarity was almost invariably confined to the individual plant, or even the individual flower; and although recurrent cases were cited, they seemed, as a rule, incapable of reproduction through the seed. It was also pointed out that similar eccentricity was much rarer

in leaves than in flowers, due, presumably, to the higher specialisation of the parts of the latter, many abnormal forms of which were obviously due to more or less reversion to the primary leaf type.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during February, on the 9th and 23rd, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on February 5th and 19th. The committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

We have received the 1904 issue of *One and All Gardening*, a popular Annual for Amateurs, Allotment Holders, and Working Gardeners, being the ninth of the series, edited by Edward Owen Greening. It is profusely illustrated, and we find a short article devoted to the culture of Dendrobium infundibulum. In an article entitled "Some Plants of Shakespere," by the Hon. H. A. Stanhope, we find a reference to "Long purples." These are the Orchis mascula, with the flowers of varying pink and purple shades, a plant to be found in moist sheltered spots.

American Gardening states that "fire in a boiler room of the Orchid house at Shaw's Botanic Garden on November 7th destroyed collections of rare and valuable plants. The glass roofs of the hothouses cracked and gave way under the intense heat, fragments falling on the rare plants and finishing the work of ruination left undone by the flames. Quickly as possible the garden attaches were organized into a salvage corps, and set to work carrying the finest plants from the buildings. Thousands were saved in this way, but others, many of which may never be replaced, went up in smoke. Orchids, specimen Palms, Persian Cacti and others were included in the list of destroyed. The fire was finally checked, but not until about 10,000 dols. damage was done from the standpoint of architectural loss. The loss in botanical specimens is beyond the measuring power of money."

An excellent photograph of the late M. Godefroy Lebeuf, who was an old Kewite, appears in the issue of the *Journal of Kew Guild* for 1903. He left Kew in 1872. The frontispiece of the work is a photograph of Mr. W. B. Latham, another old Kewite, who has recently retired from the curatorship of the Birmingham Botanic Garden, after over 35 years

service. He is well known as the raiser of Cypripedium × Lathamianum and C. × Deedmanianum.

The last issue of Messrs. Cogniaux and Goossens interesting little *Dictionnaire des Orchidées* contains figures of the following Orchids:—Angræcum filicornu, Brassia verrucosa, Calanthe veratrifolia, Cœlogyne speciosa var. albicans, C. pandurata, Cypripedium insigne var. Forstermanii, C. × Leeanum, Dendrobium Lowii, Epidendrum polybulbon, Lælio-cattleya × Frederick Boyle var. Kerchoviæ, Phaius albus, Selenipedium × nitidissimum and Stanhopea Langlasseana.

We observe that *American Florist* for December 19th last contains an illustration of a fine example of Phalænopsis "amabilis" from the collection of Dr. Paul Schiffman, St. Paul, Minn., U.S.A. (p. 793). It is evidently the Philippine plant now known as P. Aphrodite, not the original P. amabilis of Blume. The effect of the unfortunate confusion between the Malayan and Philippine plants has not yet been lost.

The issue for December 26th also contains a note and illustration of Cattleya Dowiana (pp. 838, 839), from the collection of A. Hallstrom, Esq., of the same place.

The current volume of the *Botanical Magazine* opens with two plates of the remarkable and handsome Cymbidium rhodochilum, Rolfe (tt. 7932, 7933), one of them showing a reduced drawing of the whole plant, the other the apex of the inflorescence, natural size. Commenting on the collector's statement that it always grows on masses of Platycerium, Mr. Hemsley remarks that "it is not unusual for one epiphyte to grow on another, but it is rare for the associated plants to be constantly the same." The history of the plant was given at page 184 of our tenth volume.

There is also a plate of Arethusa sinensis, Rolfe (t. 7935), from a plant which flowered in the collection of H. J. Elwes, Esq. It is an interesting addition to a small genus, which is remarkable in its distribution for an Orchid, having one North American, two Central American, one Japanese, and one Chinese species.

THE ORCHID STUD BOOK.—We have received numerous enquiries respecting this work, and hoped to have been able to give full details this month, but regret that we were not able to get them ready in time. We hope that our readers will recognise the difficulties entailed in the work, and excuse a little unavoidable delay, which no one regrets more than ourselves.

ORCHID PORTRAITS.

ARETHUSA SINENSIS, Rolfe.—*Bot. Mag.*, t. 7,935.

CATTLEYA DUCHESNEI.—*Rev. Hort., Belge*, 1904, p. 3, with plate.

CATTLEYA MENDELII LACKNERI.—*Gartenflora*, 1903.

CYMBIDIUM RHODOCHILUM, Rolfe.—*Bot. Mag.*, tt. 7,932, 7,933.

CYPRIPEDIUM × GODSEFFIANUM.—*Journ. Hort.*, 1904, i., pp. 48, 49, with fig.

CYPRIPEDIUM INSIGNE.—*Gard. World*, 1904, pp. 51, 54, with fig.

EPIDENDRUM ELEGANS.—*Gard. Chron.*, 1904, i., p. 66, fig. 28.

LÆLIO-CATTLEYA × CASSIOPE WESTONBIRT VAR.—*Journ. Hort.*, 1904, i., pp. 26, 27, with fig.

LÆLIO-CATTLEYA × HAROLDIANA JOHN BRADSHAW.—*Garden*, 1904, i., p. 25, with fig.

LÆLIO-CATTLEYA × KERCHOVÆ.—*Le Jardin.*, 1904, p. 20, with fig.

ODONTOGLOSSUM CRISPUM.—*Amer. Gard.*, 1903, p. 715, with fig.

ODONTOGLOSSUM CRISPUM MARIENFELDENSE.—*Gartenfl.*, 1903, p. 562, t. 1520.

ODONTOGLOSSUM × VUYLSTEKEI VIVICANS.—*Gard. Chron.*, 1904, i., p. 3, fig. 3; *Journ. Hort.*, 1904, i. pp. 4, 5, with fig.; *Gard. Mag.*, 1904, p. 59, with fig.

ONCIDIUM PLATYBULBON, Regel.—*Gartenfl.*, 1903, p. 449, t. 1518, fig. 1.

ONCIDIUM PRÆSTANS Rchb. f.—*Gartenfl.*, 1903, p. 450, t. 1518 fig. 2.

PHYSOSIPHON LODDIGESII. —*Journ. Hort.*, 1904, i., pp. 70, 71, with fig.

VANDA CŒRULEA.—*Garden*, 1904, i., p. 83, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

A.D., Uddington.—Your seedling from Paphiopedilum villosum × Spicerianum is a good form of P. × Lathamianum. The dorsal sepal is very prettily marked, and the plant should be taken care of.

WE have received the descriptive Catalogue of Orchids issued by Messrs. Charlesworth & Co. for 1904, containing a fine series of hybrids, as well as the usual list of species and varieties.

X. This seedling Paphiopedilum is just one of those which we think should not be named unless it develops into something better when next it flowers. It is not a primary hybrid, and, at present at all events, not an improvement on existing kinds. We agree, however, that all hybrids between distinct species should be recorded, as they are of biological interest quite apart from their decorative value.

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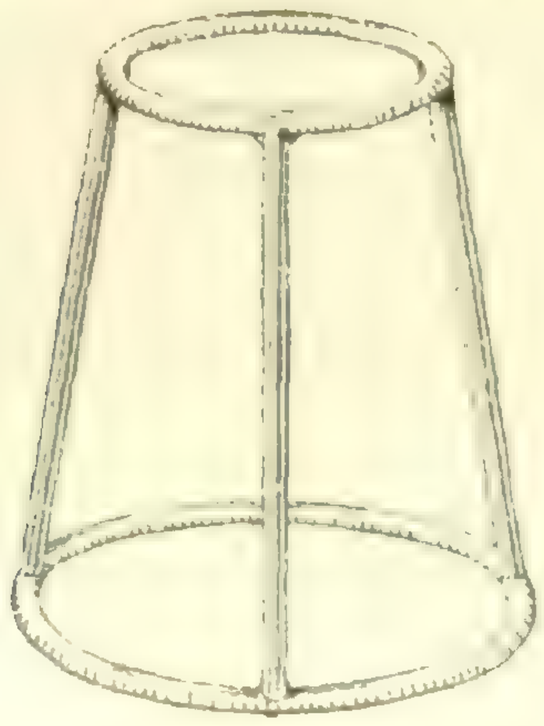

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NOTICE TO READERS OF

THE ORCHID REVIEW

A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

Further details will appear next month.

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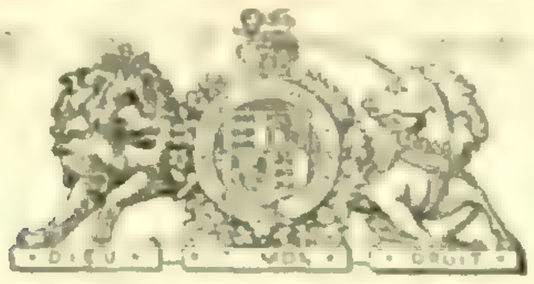

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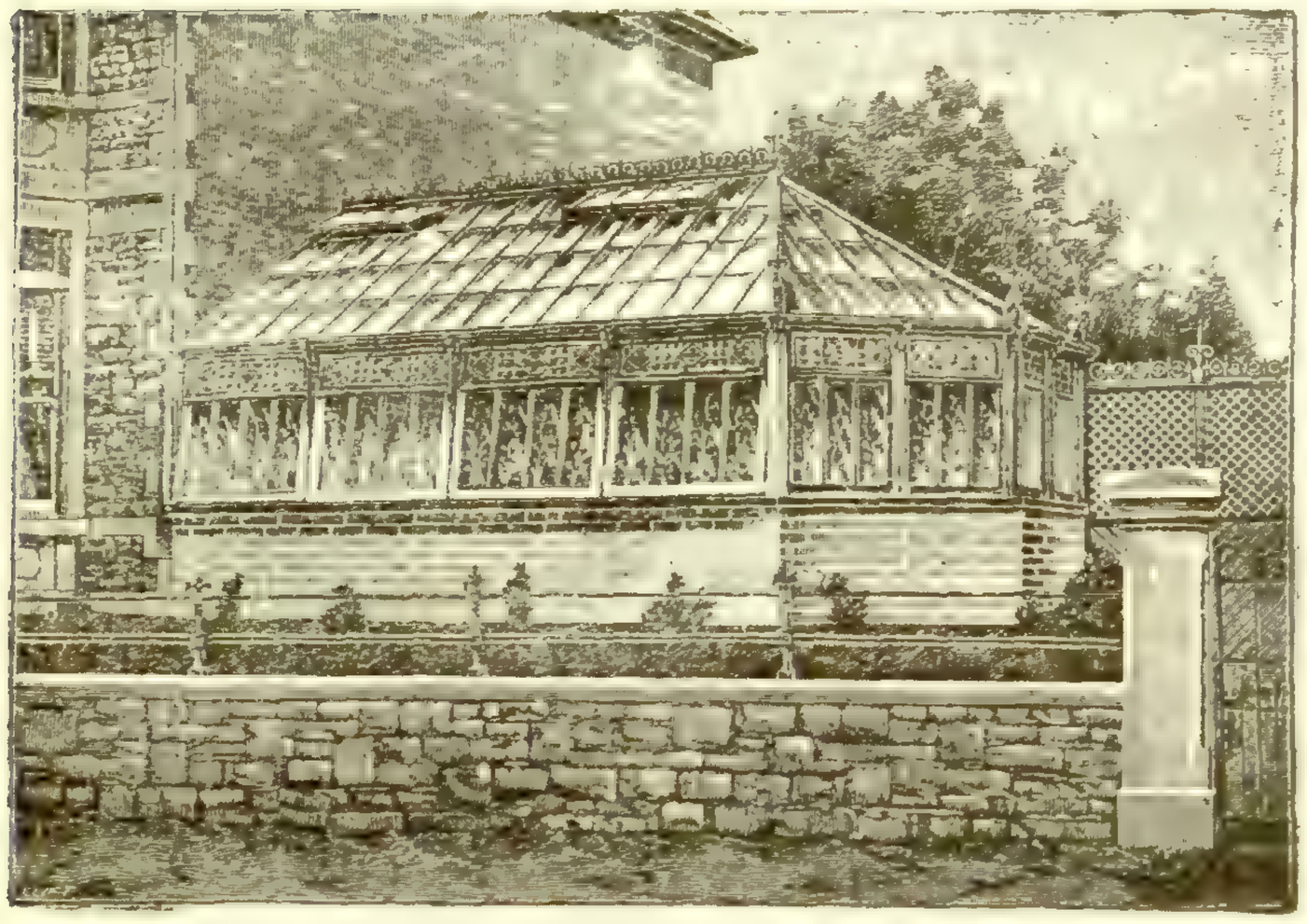

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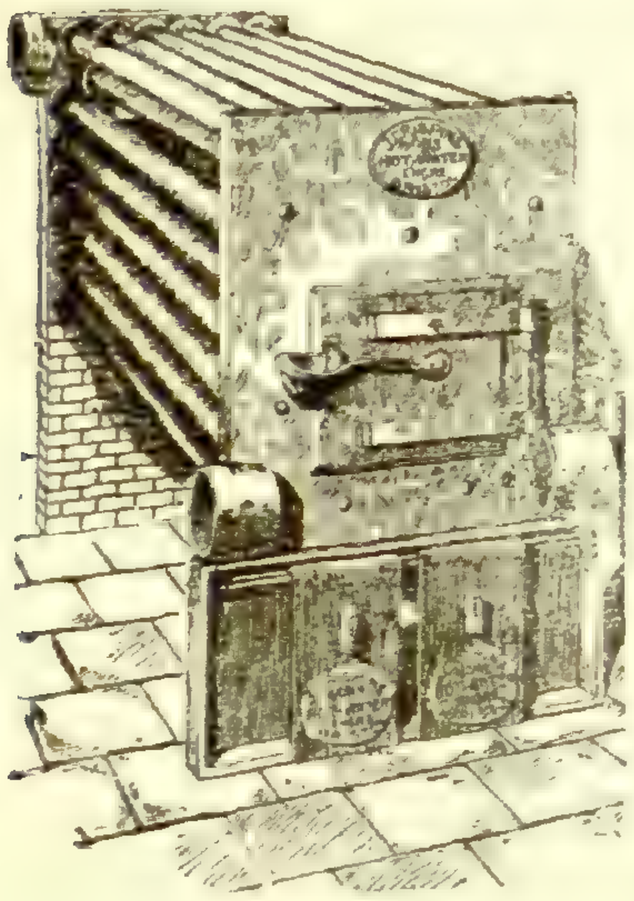

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VOL. XII.] MARCH, 1904. [No. 135.

THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

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THE ORCHID REVIEW.

VOL. XII.] *MARCH*, 1904. [No. 135.

THE ORCHID STUD-BOOK.

WE are pleased to find that numerous readers are taking an interest in the forthcoming ORCHID STUD-BOOK, and in answer to enquiries from various correspondents we cannot do better than give some particulars as to the scope and arrangement of the work.

The aim of the compilers has been to provide a record of the Orchid hybrids that have already been raised, and a guide to the literature of the subject; at the same time providing a standard of nomenclature on a uniform system.

The work is divided into two parts. In Part I. the species and hybrids used as parents are enumerated, in alphabetical sequence, and under each is given the various kinds with which it has been crossed (also alphabetically arranged), followed by the name of the resulting hybrid. A corresponding entry is, of course, given under the second parent, and thus one can see at a glance the different kinds with which any given species has been crossed, and also find the name of the hybrid as readily as one can consult a dictionary.

Part II. contains an alphabetical arrangement of the various hybrids under their adopted names, these, of course, agreeing with those given in Part I. The information respecting them is arranged as follows:—(1) the adopted name; (2) the parentage: (3) the original publication; with (4) references to figures or other important additional information; (5) the raiser or exhibitor; (6) the date of appearance, and (7) the synonymy (when different names have been applied to the same hybrid). In a few cases critical or explanatory notes have been added.

It might appear that the carrying out of the work under such a system would be a very simple matter, but in practice it has been quite the reverse. In some cases the parents are either unknown or unrecorded—some being stray seedlings—in others the records are obviously erroneous or contradictory, and it has been a matter of the greatest difficulty to know where some of them should be placed. An example which was given at page 324 of our tenth volume, affords a good illustration of this. Owing to

this difficulty it is possible that a few of the records included may require amendment in the future, but a few of the more doubtful, together with those of which the parentage could not be ascertained, have been omitted for the present.

A multiplicity of names for the same hybrid has also given much trouble, but this has been got over by classifying hybrids of identical parentage as forms of one. Some of them may be regarded as distinct varieties, others mere synonyms, but we have made no attempt to distinguish them. Where plants have been figured as distinct varieties, however, the names have been included.

We have tried to make the work as complete as possible, but there may be omissions, and we have reason to believe that certain hybrids have been raised and not recorded. We hope that raisers will send in particulars of these, also of any errors which they may detect in the records. It is highly important that these should be as correct and complete as possible, and in order to prevent them from again falling into error we intend to publish the additions in monthly supplements in our pages, uniform with the arrangement adopted in part 2, these to be incorporated in a second edition of the work, should such be called for.

It was intended to include the January additions in the present issue, and they have been got together for the purpose, but as they are not very numerous, and would be in advance of the work itself, they are held over for a short time.

The work has entailed numerous difficulties, but we hope its accomplishment, and the arrangements for recording future additions, will prove an effectual solution of what has proved a very embarrassing question. We hope to receive the active support and assistance of our readers in the matter, and beg to call their attention to the circular enclosed with the present issue.

DENDROBIUMS AND AMMONIA.—From the success I have had with "miffy" Dendrobiums in Pine, Melon, and other houses, where some at least of the heat is derived from fermenting material inside, I am positive that an ammoniated atmosphere is of the greatest benefit to them; and although one can hardly introduce beds of leaves or manure into the Orchid house, yet much may be done by damping with liquid manure or soot water, sprinkling a little soot and lime about where drip will reach it and cause a constant supply of ammonia to be given off, or by placing sulphate of ammonia iu the heating troughs. The result will soon be seen in the increased health of the plants, the leaves taking on a deeper green.—H. R. H., in *Journal of Horticulture.*

ORCHIDS AT KEW.

There is a remarkably brilliant display of flowers in the Orchid houses at Kew at the present time, in which Dendrobiums, Cattleyas, Phaius, and Calanthe Regnieri play a leading part, the former especially being in great profusion. Of these D. Wardianum, D. nobile, and the numerous hybrids come first in point of numbers, and the effect these plants produce when well-flowered is well known, in fact the scene is duplicated in hundreds of collections throughout the country at the present time. Other beautiful forms now flowering freely are D. primulinum, in several good examples, D. Findlayanum, D. crassinode, the delicately-coloured D. luteolum, D. Williamsoni, D. superbiens, D. infundibulum, D. aureum, the natural hybrid D. × Pitcherianum, and various artificial hybrids, among which D. × Ainsworthii and its varieties, D. × Dominianum, D. Curtisii, the fragrant D. × endocharis, D. × chrysodiscus, and D. × Wardiano-japonicum are conspicuous.

The genus Phaius is well represented by good examples of P. Wallichii, P. grandifolius, and P. Blumei, the clear yellow variety of the latter called var. Bernaysii forming a very effective contrast with the type. The beautiful Madagascar species P. tuberculosus and P. simulans are also both in bloom, and it is interesting to note the great diversity in habit, and remarkable similarity in their flowers.

In the same house with the preceding may be seen a number of other showy things, some well-flowered plants of the graceful Platyclinis glumacea, and several rarities, of which latter a few particulars may be interesting. Cynorchis villosa is a very pretty Orchis-like plant, having erect spikes of very villous purple flowers with a white lip. It was introduced from Madagascar by M. Warpur. Oncidium macropetalum is a pretty little species of the O. barbatum group which is seldom seen in cultivation, and is remarkable for its relatively large petals. Spiranthes plantaginea is a Brazilian species bearing several spikes of small green flowers with a white lip, and beside it is another species having pale flesh-coloured flowers whose identity seems uncertain. The allied Pelexia olivacea has larger greenish flowers and variegated leaves. Calanthe rubens alba is a pure white variety of a species of the vestita group allied to C. Regnieri. Lastly may be mentioned Maxillaria sanguinea, a most elegant little plant of the M. gracilis group, having a bright crimson lip, and now flowering freely. Near by is a brilliant little hybrid derived from Cattleya amethystoglossa and C. Lawrenceana.

In the Cattleya house are many forms of C. Trianæ and C. Schrœderæ, producing a fine display, also examples of C. Loddigesii, a good Lælia Jongheana, and the brilliant L. harpophylla, Leptotes bicolor, the interest-

ing natural hybrid Brassocattleya × Lindleyana, and several Epidendrums, as E. Wallisii, E. elongatum album, the bright yellow E. xanthinum, E. × O'Brienianum, E. × kewense, E. variegatum, and E. × Endresio-Wallisii. There is also a good example of Cœlogyne lentiginosa, some good C. cristata, Maxillaria picta, M. variabilis and its yellow variety unipunctata, in good examples, Oncidium pulvinatum and O. porrigens, Pleione humilis, Cymbidium elegans, the violet-purple Odontoglossum Edwardii, and the pretty Ornithidium coccineum.

In the Cool House various species of Odontoglossum are in flower, which need not be enumerated, also Restrepia guttulata, R. erythroxantha, and a good example of R. striata, Stelis tristyla, S. Miersii, and several Masdevallias. There are also good examples of Cymbidium Lowianum and Dendrobium speciosum, one of the latter bearing as many as twelve racemes, and two good plants of the remarkable Pleurothallis Roezlii, bearing an aggregate of eight of its drooping racemes of dark, blackish purple flowers. A plant of Aërides Vandarum, on a raft, is also producing nine racemes of flowers. Cynorchis compacta is a gem from Natal, of which a nice batch of plants may be seen, grown in three pots. The flowers are pure white, and the plants are only some four to six inches high, and remind one of small Orchises. Amblostoma tridactyla is a small Epidendrum-like plant, and Goodyera procera, an Indian species, has narrow, erect spikes of green flowers. There is also an example of the South African Polystachya pubescens, Lycaste Skinneri, &c.

In the house devoted largely to Cypripedes, may be seen the old Chinese Goodyera repens in flower, Saccolabium violaceum and its white variety Harrisonianum, Phalænopsis Stuartiana, and several Phragmopedilums, while among rare Paphiopedilums are examples of P. nigritum, P. virens, P. Appletonianum, and the curious P. × Harrisianum virescens.

A meeting of the Cardiff Gardeners' Association took place at the Grand Hotel on Tuesday, January 26th, Mr. H. R. Farmer presiding. Mr. E. W. Davy delivered a lecture entitled "Orchids," dealing largely with the history and adventures of collectors in various part of the world, also defining in general the natural habits of the various genera. He recommended strongly to adapt the mode of cultivation as near to that as possible which they invariably enjoy in their native climes. So much was the lecture appreciated that Mr. Davy was asked to repeat the same at another date, to be arranged for that purpose. The lecturer had brought with him fifty hand-painted sheets representing various types of Orchids by way of illustrating his discourse. The best thanks of the meeting were accorded Mr. Davy.—J. J., in *Journal of Horticulture.*

DENDROBIUM CYMBIDIOIDES AND D. TRIFLORUM.

It appears that there are two allied plants in cultivation under the name of Dendrobium cymbidioides, and when I was at Glasnevin last year they were pointed out to me by Mr. Moore, and although not then in flower it was easy to see that they were distinct. Both are now flowering together, which enables the matter to be cleared up. They belong to the section Sarcopodium, which is characterised by its ovoid diphyllous pseudobulbs.

D. CYMBIDIOIDES appeared in cultivation about fifty years ago, and was figured in the *Botanical Magazine* (t. 4755), when its history was given as follows :—"A plant very little known, either in our gardens or herbaria, of which we received living specimens from Messrs. Rollisson, of the Tooting Nursery, without any name. It proves to be the Desmotrichum cymbidioides of Blume, native of the lofty wooded mountains of Gede and Salak in Java, a genus of that author of which all the species have, we think with propriety, by Dr. Lindley, been incorporated with or restored to Dendrobium. Dr. Lindley had indeed seen no specimens : but drawings of this were sent to him by Professor Reinwardt, and of a closely allied species, Desmotrichum triflorum, 'scarcely differing from this, but in its uniformly tetragonal pseudobulbs and cream-coloured flowers always appearing in threes.'" A figure of the species also appears in Miquel's *Choix des Plantes* (t. 21).

D. TRIFLORUM has remained an almost unknown species down to the present time, but on comparing the plants sent to Kew by Mr. Moore, I find that one of them agrees with the drawing sent by Reinwardt to Lindley, except as to the number of flowers, and also that it is the D. cymbidioides of most gardens, having been twice figured as such (*Gard. Chron.*, 1896, i. p. 581, fig. 90 ; and *Cogn. Dict. Orch.*, Dendrob., t. 17), and that it has been in cultivation since at least 1889, when it flowered both with Mr. Moore and with M. Van Imschoot, at Ghent. The latter stated that he had received it from Mr. Witte, of Leyden, under the name of "Cœlogyne ocellata var., Java," but whether this represents its original introduction is, of course, uncertain.

Although nearly allied, the differences between the two plants are very marked. D. cymbidioides has short elliptical leaves, greenish yellow sepals and petals, and the lip nearly white, with about four dull purple stripes on the side lobes, and the front lobe broadly ovate, with a bright yellow area at its base and in front of the crest. D. triflorum has oblong, much longer and narrower leaves, much narrower straw yellow sepals and petals, the side lobes of the lip almost wholly dull purple, and the front lobe much longer and narrower. The crests are also quite different in the two plants. They are both handsome species, with very little of the appearance of

Dendrobium, though the pollinia are those of the latter genus. The flowers bear a considerable general resemblance to Cymbidium, especially to the Australian species, and thus the specific name, cymbidioides, is sufficiently appropriate. D. triflorum, however, is not well named, for the flowers on the raceme vary in number from two to six, according to the strength of the pseudobulbs. The coloured drawing sent by Reinwardt to Lindley shows a three-flowered raceme, but that was evidently a mere accident, for such is also the case with the drawing of D. cymbidioides, which sometimes produces as many as eight flowers on a raceme.

R. A. ROLFE.

ODONTOGLOSSUM FACETUM.

ODONTOGLOSSUM FACETUM is an interesting and beautiful plant, which was described by Reichenbach over twenty years ago (*Gard. Chron.*, i., 1881, p. 563), but which has been subsequently almost lost sight of. I have never been able to ascertain what it really was, and am the more pleased to find that it has not been completely lost. A plant has just flowered in the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, and the inflorescence has been sent to Kew for preservation. Mr. Young states that it was purchased at the sale of the Tautz collection about fourteen years ago, and I have little doubt that it came from the original stock. Reichenbach remarked:—"This is an unusually fine thing, quite a dandy among the supposed hybrid Odontoglossums, whence I deduced the name. You cannot look too much at it to see its elegance, its remarkable undulations, fine teeth, lovely keels, and rich fringes. It came from Mr. Bull's *stabilimento*." As to its characters, he observed:—"This has lanceolate straight sepals, like those of the old Odontoglossum luteo-purpureum, or even more like those of O. mulus, light yellow, with very large rather cinnamon-coloured blotches. The petals are lanceolate, straight, with numerous fine teeth, light yellow, covered with numerous small cinnamon-coloured blotches. The lip is almost circular, short, finely fringed, convolute, undulate, light yellow. It has a radiating semicircle of keels, intermediate as it were between those of O. Hallii and O. tripudians, the anterior ones being blades with numerous fringes, including a single shallow keel, the side ones—four on each side—shorter, lower, acute, with a few dorsal teeth. There is a horseshoe-formed brown marking in front of the keel, and some brown spots on and between them. The column has very multifid wings. If a guess were permitted one might believe this to be a hybrid between O. Hallii and luteopurpureum, or Hallii and tripudians. The lip and its keel are very much like those organs in O. Hallii."

So far as the above description goes the plant now sent agrees in every particular, and I have no doubt that it is correct, but it is no wonder that its identity has been in doubt. In addition to its rarity, and the total absence of a clue to its habitat, we have suggestions of parentage that are absolutely impossible, for O. Hallii is a native of Ecuador, while O. tripudians and O. luteopurpureum come from several hundred miles further north in Columbia. I cannot trace any resemblance to O. Hallii, and an Ecuadorean habitat is evidently out of the question. Then there is no reference to its size, and no one reading the above remarks would expect to find a small flower scarcely 2¼ inches in expanse from tip to tip of the petals, as is the one now sent: yet the plant is strong and healthy, and bears an inflorescence of ten flowers. The best comparison I can make is with a small form of O. sceptrum, and I believe that I have previously passed it over as such, but the specimen is not available for comparison at the present moment. Apart from size, however, it is a most elegant little plant, and quite justifies the eulogies uttered by Reichenbach respecting it. But there still remains the question as to what it really is, and here I feel a difficulty. I cannot see what combination of species would produce such a hybrid, and have a suspicion that it may be a local form most allied to O. sceptrum. The latter, crossed with O. Hunnewellianum, should produce a hybrid much like this in size and colour, but there is no trace of the entire column wings of the latter, and the shape of the segments would probably have been broader and rounder. Perhaps when the plant is again imported, and something is known about its habitat, and the species, if any, with which it grows, it may be possible to form some better idea as to its precise rank.

R. A. ROLFE.

ADA AURANTIACA.—This Orchid may be grown in any cool, moist house. The bright orange-coloured blossoms are greatly admired during the month, and contrast strikingly with the other occupants in the Cool house. It is a colour infrequently met with amongst Orchids, which fact increases its value, and makes it worthy of a place in every collection. When well grown it amply rewards attention bestowed upon it by a wealth of its telling flowers. The cultural details are simple in character—one to be observed is that it resents annual disturbance, and for this reason the potting should be done with thoroughness, clean pots, equally clean drainage, and enough space being allowed for root development to last the plants at least two seasons. When well established, water freely all the year round, and place in a position where a moist atmosphere can be maintained.—W. F. GOOCH, *in Journal of Horticulture.*

ORCHID HYBRIDISING IN FLORIDA.

WE have previously had some very interesting notes of hybridising operations in the collection of T. L. Mead, Esq., Oviedo, Florida, and now Mr. Mead sends another very interesting note, as follows :—

"I have had a lot of little hybrids—Cattleyas, Lælio-cattleyas and Dendrobiums—started outdoors on a mossy magnolia trunk, which have endured the buffets of outrageous weather this winter in the most astonishing manner. About one hundred plants came from mixed seed planted last July. The trunk is nearly horizontal, and I put a cheese-cloth screen over it to keep the rains from washing the seeds away. Otherwise they were unprotected, and there has been hardly any mortality among them, though the thermometer has been down in the thirties, at sunrise, for weeks at a time, and not infrequently below 32°, and even as low as 28°. About seventy-five per cent. of similar plants protected in the greenhouse perished, but these outsiders seem perfectly happy. When weeks of drought come they shrivel up, and then plump up again as good as ever after the next rain. The Dendrobiums must be mostly D. × Niobe varieties intercrossed, but the Cattleyas, &c., are a miscellaneous lot, most likely several Lælia purpurata crosses among them, as that is a hardy species. Perhaps Orchid babies do not like so much coddling as we think they do.

"Quite a number of pretty hybrids have bloomed with me during the past year. Cattleya Schilleriana crossed with C. intermedia and with C. Loddigesii (both from the same pod), also C. Schilleriana × maxima, C. Bowringiana × Forbesii, two very handsome examples of C. Leopoldi × Gaskelliana, and a specimen without record, but probably C. Leopoldi × Lælia tenebrosa. I have now a C. Trianæ × Percivaliana in bloom, just ten years from seed. The plant grew very little in the first seven years—was only two or three inches high at the end of that time, but during the remaining three years it has made two bulbs a year, grown vigorously, and bloomed from both the bulbs of 1903. Planted January 1894, bloomed January 1904. If the cross has not yet been named I think . . . . . would be euphonious, and would be suggestive to anyone who wished to remember the parentage. C. × Adela is the name of this hybrid.—ED. .

"I have been trying photography again after dropping the art almost entirely for ten years, and have had good successes in making life size records of my recent hybrids. I intend hereafter to take a similar picture of every hybrid that I bloom, as it is very little trouble, and the expense is hardly worth considering when one has the camera and lens. It seems a pity that every named flower should not be thus recorded, and a print deposited with the *Orchid Review* for future reference."

T. L. MEAD.

PLATYCLINIS GLUMACEA VAR. VALIDA.

THE species of Platyclinis are among the most graceful of spring-flowering Orchids, and are moreover very easily cultivated, so that good specimens of several of the species are frequently met with. P. glumacea is one of the best known, and produces pendulous racemes of greenish white flowers, which are distichously arranged on the inflorescence, as shown in the illustration. The latter represents a particularly strong-growing variety, known as variety valida, and differing from the type in having much broader leaves. It was described at page 115 of our first volume, in 1893,

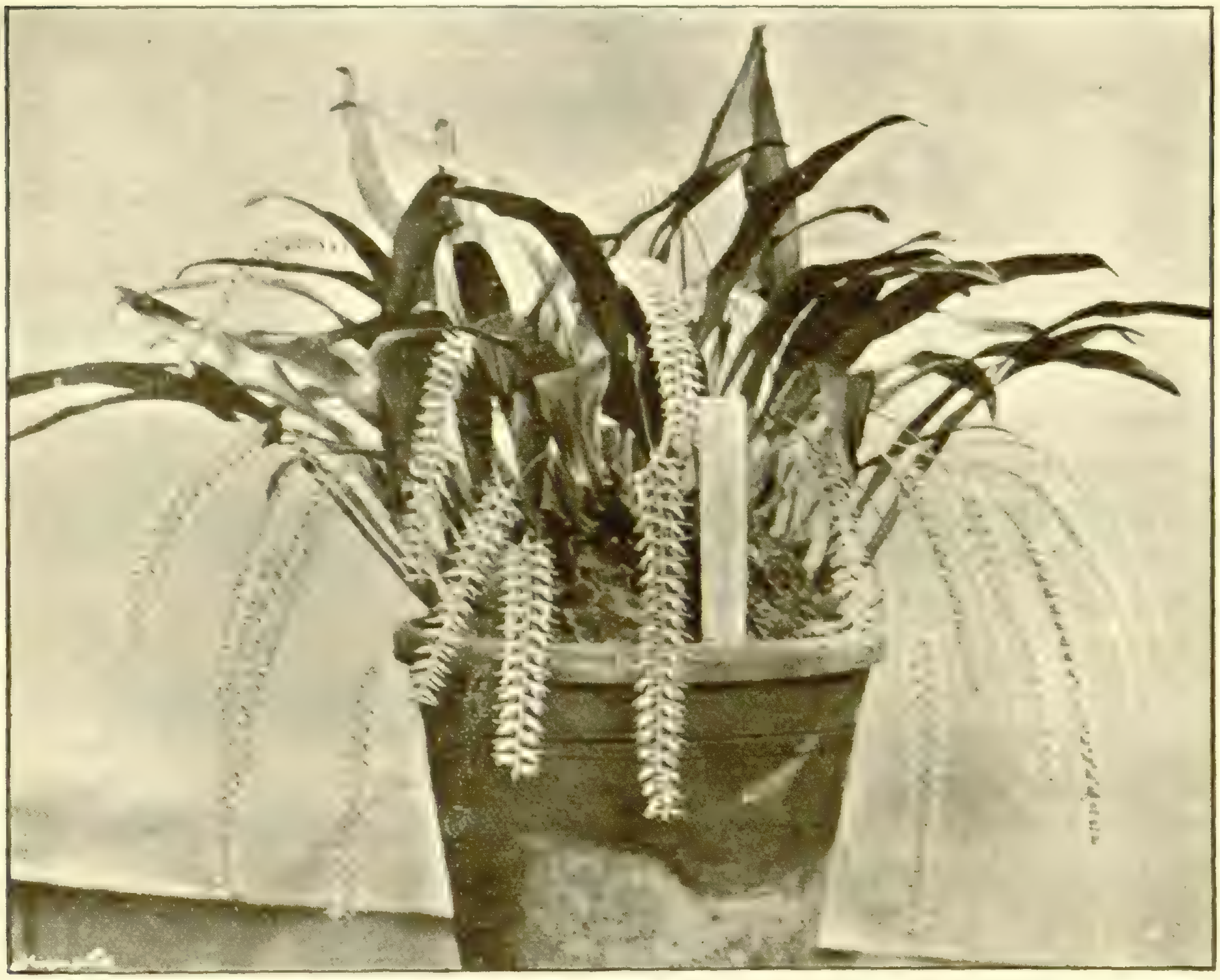

FIG. 18. PLATYCLINIS GLUMACEA VAR. VALIDA.

at which time it was known from at least three different collections, but it afterwards came out that it had then been known in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, for some eight years, and the circumstances of its original introduction do not seem to have been recorded. In fact it was at first known as P. latifolia, doubtless owing to its broad leaves, but this name belongs to a quite distinct plant. The specimen here figured flowered in that collection, and its graceful character is very well shown in the photograph. It is a native of the Philippine Islands. All

the species require similar treatment, and are found to thrive in the East Indian or Cattleya House, grown in well-drained pots or pans, in a compost of fibrous peat and sphagnum moss. They should be potted immediately after flowering, just as they begin to grow, and during active growth they like a plentiful supply of water, but the amount should be diminished at other seasons, taking care, however, not to let them become dry, or the plants will suffer. The annexed specimen had been steadily grown on for ten years from a small plant.

CALENDAR OF OPERATIONS FOR MARCH.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE temperature for the month of March should be kept near the following figures :—

COOL HOUSE.—Day, 60° ; night, 50° to 55°.

INTERMEDIATE HOUSE.—Day, 65° ; night, 55° to 60°.

WARM HOUSE.—Day, 70° ; night, 60° to 65°.

The temperatures given above are suitable for fire heat alone, but during sunny weather a rise of the thermometer will necessarily follow, which will be advantageous to the plants generally, providing there is not an excess of fire heat at the same time. Sometimes the sun makes its appearance suddenly during the early part of the day, when the hot water pipes are already sufficiently heated to maintain the required degree of warmth ; it is then much better to use the blinds rather than to allow the temperature to become excessive, or to try to reduce the same by putting on a super-abundance of air. Ventilation by means of the top lights is generally accompanied by considerable risk during this and the following month, and if indulged in should be done most sparingly, otherwise the cold draughts resulting are the means of checking tender growths ; and, again, the atmospheric moisture is too rapidly transformed. The best method of admitting air is by means of the bottom ventilators—especially at this time of the year—the atmosphere is thus kept pure and sweet, and in a more uniformly moist and growing condition.

Damping down between the pots and other available spaces may be done two or even three times daily, in accordance with the conditions prevailing outside. Orchids are often injured, and sometimes killed outright, by over-saturation of the compost in which they grow ; seldom, however, are they injured by the moisture arising from the evaporation of water distributed on the stages, floors, walls, &c. They thrive not so much upon the water given them at the root as upon that which they derive from the atmosphere. If the atmosphere of the house contains plenty of moisture, and is at the same time kept pure by a judicious use of the

bottom ventilators, then, and then only, is a foundation laid upon which to build up future success.

The work of repotting, &c., will now begin in earnest. Take, for instance, the Mexican Lælias. The first and foremost of these is L. anceps, with its numerous varieties. They should now be taken in hand, where this operation is necessary, and after being overhauled and well cleansed from all traces of that particular scale to which they are liable, should be repotted. It is wise to perform this operation in a thorough and workmanlike manner, so that it does not become necessary to again disturb their roots for at least three years. If the plant is a large one, the several pieces forming it should be placed together skilfully so that a neat specimen is made, and one that will take up the least amount of room. One sometimes sees a plant of L. anceps with about three leads occupying an enormous basket or pan, which it is needless to say is a useless waste of room. Should the rhizomes become too long, they may be severed, leaving three or four bulbs to support the lead. The back pseudobulbs taken away will break again, and should be placed in with the plant; by these means a greater number of leading bulbs are being constantly added. Take care not to bury the pseudobulbs, but let the rhizome be on the level with the compost; if buried, the eyes which are dormant will soon decay. L. anceps Sanderiana and L. a. Schrœderiana, when seen in all their beauty, are Orchids not easily surpassed. They must, however, be strong in order to bloom well, and the chief points of cultivation to bear in mind are:—not to allow them to ramble over the side of the receptacle for more than one season's growth, and during summer to give them the full sun, plenty of water, and abundance of air. Should there not be a house set apart for these sun-loving kinds, L. anceps and varieties, then they are better grown in baskets or pans, and suspended near the roof of the Cattleya House. If, however, there be a house for their accommodation, together with a few other sun-loving subjects, then they are better in pots on the stage.

Lælia grandiflora (majalis) often proves a difficult subject to keep in condition for any length of time. I find the most successful way to keep this species in good condition is to grow it in small pans, with just enough leaf-soil, peat and sphagnum moss about its roots to steady and secure it in position. Give liberal supplies of water when growing. It is rather a shy Orchid to bloom, and rarely does so until the bulbs have attained their maximum size, and even then they are apt to disappoint one. It is always advisable to keep them on the dry side until the new growths are an inch or two high, as the flower spikes grow simultaneously. It is useless, however, to withhold water too long, for if the flower spike is not formed in the new growth during its early stages, no amount of drought will cause it to appear afterwards. It is an easy matter to tell a flowering growth

early in the season—say about April or the commencement of May—by its swollen appearance. After this date all should be liberally treated with water, in order to encourage the making of fine large pseudobulbs.

Thunias should be repotted this month. The compost should be of a loose, open kind to root in, composed of peat, loam and coarse silver sand. Pot firmly, about four strong pseudobulbs to a 32-sized pot. These make nice, graceful, and useful plants for decorative purposes. Plenty of sunshine and an intermediate temperature, with the above, are conducive to short, stout, pseudobulbs and free blooming.

There are a number of Orchids which are best suited with exactly similar treatment to that which the Dendrobiums enjoy, and which have been resting with that genus during the winter in intermediate temperature. Such will again be moving into active growth, and will soon require attention. These are the Mormodes, Catasetums, Coryanthes, and Cycnoches. The culture of these genera is nearly identically the same. They are all most likely to give the best results if grown in pans, with the exception of Coryanthes, which should be grown in baskets, and suspended in a light position in the Warm house. The compost should never be allowed to get sour for want of renewing; certainly two years should be the outside limit, in fact I think it better to make a practice of giving fresh sweet materials to root in annually. Such would be the best safeguard against their deterioration, which it is well to avoid, for when this takes place, some trouble is experienced before they are again brought to a sound state of healthy vigorous growth. The best fibrous peat and sphagnum moss in equal proportions should be used, and make quite sure the plants are firmly secured in their receptacles. The above cultural remarks will also apply to Chysis, which are just starting to grow, and will soon be showing their flower spikes again.

Continue to repot any of the Dendrobiums that need it as soon as possible after flowering, and afterwards place them in their proper growing quarters, where they will be gradually inured to more warmth and moisture as the spring advances.

A very pretty Orchid which delights in warm treatment is Miltonia Roezlii. The best position for this is a naturally moist one. It often happens that the foliage of the plants is more covered with moisture at early morning in one part of the East Indian house than in another, and it is in such a place that Miltonia Roezlii will flourish, if not too heavily shaded. A light, airy position in the Cattleya house is most suitable for the other Miltonias, and all that are pushing new growth from the base of the pseudo-bulbs should be taken in hand and repotted if necessary. M. spectabilis and its variety Moreliana are amongst the earliest to start. M. vexillaria is a most popular species, and is also best suited in the

position just mentioned. It is not a good practice to wet the foliage, or to keep the plants too wet at the roots, as if so, or if grown in a too cold, or badly-ventilated house, the leaves decay from the apex downwards much more than they would otherwise do. This species is a happy hunting ground for thrip, but if tobacco powder is employed there is no difficulty, and "dipping" is never required, which is productive of better cultivation, as the plants when undergoing this latter operation are liable to be shaken and broken in a greater or lesser degree.

In the Warm house such plants as Aërides, Saccolabiums, Angræcums, &c., may be re-topdressed with fresh clear picked sphagnum moss, where required, and any that are in need of re-potting may now have the necessary attention. In the Cool house will be found many Odontoglossum crispum, O. triumphans, O. luteo-purpureum, and O. Rossii, also various species of Oncidium, in a state requiring a renewal of compost, and the present is a most suitable time for this operation.

THE LATE CONSUL LEHMANN.

WE may supplement our obituary notice of the late Consul F. C. Lehmann (page 31) by a few particulars taken from the *Gardeners' Chronicle* for February 13th (page 106). Mr. Lehmann was drowned on November 23rd last, in the river Timbique, in Colombia, whilst crossing the river in a small boat, to visit a gold mine in which he was interested. He was fifty-three years of age at the time of his death. He was of humble parentage, and received his education at the village school, though by his indomitable energy and perseverance he gained a knowledge of several languages, besides being a good botanist and a skilful draughtsman. After acting as collector for Messrs. Hugh Low & Co. he, about twenty-five years ago, settled at Popayan, and has ever since, until his death, been German Consul there, a specially arduous duty in a country where political disturbances are chronic. He married a lady belonging to one of the old families of Colombia, Senora Maria Josefa de Mosquera, and devoted much of his energies to the development of his estate, including the management of the Timbique Gold Mines. Since his marriage he has only been to Europe on two or three occasions, the last being when he brought his son, some ten years of age, to be educated at Berlin.

An extract from a letter from Consul Lehmann, under date March 24th, 1903, published in the *Kaiserliche Deutsches Konsalat de Popayan*, gives some idea of the man and his work:—"Orchid collecting and travelling have been altogether hampered during the time of the Civil War. Officially it has been pronounced ended over and over again, but while reading the announcement, if you were favourably situated, you would still hear the

cracking of the rifles. I have been tied down by my Consular duties, and also by having to rebuild the house on my country estate; but the latter will soon be finished now, and then I shall be able to roam over hill and valley again, and look up some of the many pretty things which I would like to get into European gardens, especially my discoveries in Masdevallias, most of which are as yet undescribed, for I am an enemy of making new species, and this often leads me to the other extreme. How careful and slow I am before I publish a new species you may derive from the fact that I have in my herbarium not fewer than about forty-two species of Masdevallia, all with drawings and detailed descriptions. which I am sure are new, many quite extraordinary in construction, of which I have not published one. But I would like to get some of them into gardens." Among those introduced by him are enumerated, M. ventricularia and its variety longicaudata, M. trinema (Lowii), M. angulata and its showy ally, M. burfordiensis, M. deorsa, M. Lehmanni, M. Tubeana, and M. rosea. The last-named plant Mr. Lehmann considered his hardest task, for in 1880, when travel was more difficult than it is now, he, after great privations, reached its habitat at a very high elevation near Loxa, in Ecuador. The plant, which had been known from the time it was discovered by Hartweg in 1842, was successfully collected and packed; but all sorts of expedients had to be resorted to, to preserve a part of the specimens while passing through the hot villages to the port. Once shipped the trouble did not end, for although daily tended by their collector the stock got smaller, and finally the *Para*, by which Mr. Lehmann was bringing them, got wrecked off St. Michael, Azores. But at the risk of his own life Mr. Lehmann got some of the plants off alive, and landed them in England.

Respecting his collection, it is added that numerous specimens will be found in the all-absorbing Reichenbachian Herbarium: others are in the Boissier Herbarium, at Chambesy, near Geneva; and another set, nearly if not quite as complete, is in the Natural History Museum at South Kensington. Many of his plants have lately gone to Berlin, and the remainder, which are still at Popayan, will also be sent there. The notice is accompanied by an excellent portrait.

VARIATION OF LÆLIA ANCEPS.

A CURIOUS case of variation in Lælia anceps, in the collection of Jeremiah Colman, Esq., Gatton Park, Reigate, is recorded by Mr. W. P. Bound (*Gard. Chron.*, 1904, i, p. 100), as follows:—"Soon after my taking charge of the Orchids at Gatton, in January, 1900, a specimen plant labelled Lælia anceps Sanderiana flowered, and the flowers had no colour on the front of the lip. I was told that previously it had always showed the blotch of colour

peculiar to the variety Sanderiana, yet I altered the label to L. a. Stella; in 1901, 1902, and 1903 it came the same as in 1900; it was shown and commented upon at the Royal Horticultural Society's meeting as true L. a. Stella. This year it has come again L. a. Sanderiana, having a well defined blotch on the tip of the lip. By no chance can it be that there are two species in the pan, for each year it has produced four spikes annually, previous to this year, and the flowers on all the spikes were the the same; this year it had three spikes from the same lead that flowered last season and previously, and the flowers on each spike are true to L. a. Sanderiana. I shall be interested to know if anyone else has experienced a similar case." Mr. Bound adds:—"My note will seem incredible to many, but I am certain that it is correct."

Another case of variation is recorded by Mr. W. H. Clarke, Aston Rowant House Gardens, Oxon. (page 121), this, however, being in one of the coloured forms. Mr. Clarke writes:—"Never before have I noticed such variation as there is among some of my flowers. Distinct white rays ran through the rose-lilac colour of each petal. All the flowers on one scape were the same, but other flowers on the same plant were true to the type."

CYMBIDIUM WILSONI.

THIS is a very interesting Cymbidium introduced from Yunnan by Messrs. James Veitch & Sons, through their collector, Mr. E. H. Wilson. It is allied to the Himalayan C. giganteum, and as that species has recently been collected in Yunnan by Dr. Augustine Henry it was a question when first compared whether it might not be a dwarf form of that species. It is, however, much smaller, the leaves measuring only some 12 to 14 inches long by 6 to 8 lines broad, and the pseudobulbs 1¾ inches long by 1 inch broad. The scape is also much more slender, and at present bears five flowers, which are little smaller than those of C. giganteum, measuring 3½ inches in expanse, while the hairs on the lip are distinctly shorter, though very numerous. The flowers are as fragrant as in C. Tracyanum. The sepals and petals are light green, with a slight brownish tinge, and rows of minute reddish-brown dots, especially on the petals. The lip is whitish yellow, strongly lined with red-brown on the side lobes, a few spots also occurring towards the apex and along the prominent hairy keel; while the margin of the undulate front lobe is also marbled with brown, and a similar narrow line extends down the centre of the disc from apex to base. A plant was exhibited by Messrs. Veitch at the R.H.S. meeting on February 23rd, and obtained an Award of Merit. It is an interesting addition to the genus.

R. A. ROLFE.

HYBRID ODONTOGLOSSUMS.

WE have now much pleasure in figuring two more very beautiful Odontoglossums, raised by M. Ch. Vuylsteke, of Loochristi, Ghent, from photographs taken by Mr. Leo Farmar. We ought, however, to say that in making the blocks they have been inadvertently enlarged a little beyond natural size, though this may not be apparent when the plants have reached their full development. In the second case, unfortunately, the parentage has had to be inferred from the characters of the flower, the record being lost, so that in this respect it comes down to the level of a natural

FIG. 19. ODONTOGLOSSUM × BELLATULUM.

hybrid, though in the latter case one is often helped by a knowledge of the species which grow together. Additional seedlings may throw further light on the question hereafter.

O. × BELLATULUM is believed to have been raised from O. Pescatorei ♀ and O. sceptrum ♂, and was described at page 99 of our tenth volume. The present form (fig. 19) is believed to be another seedling from the same batch, and it may be added that those which have already flowered have shown a certain amount of variation between themselves, though conforming to the same type. It shows a considerable resemblance to O. × Horsmanii, a

natural hybrid believed to have originated from O. crispum and O. luteopurpureum, and we do not know of a record that O. sceptrum and O. Pescatorei grow anywhere intermixed in a wild state. The flowers are fairly intermediate in character, the colour being pale yellow, blotched with deep brown, and the lip showing strong evidence of the influence of O. Pescatorei, which is apparent in other respects, while the acute toothed petals, fringed column wings, and markings strongly recall O. sceptrum. It is an interesting and beautiful hybrid.

O. × MERIFICUM was exhibited by M. Ch. Vuylsteke at the last Temple Show, and was recorded as a hybrid between O. crispum and

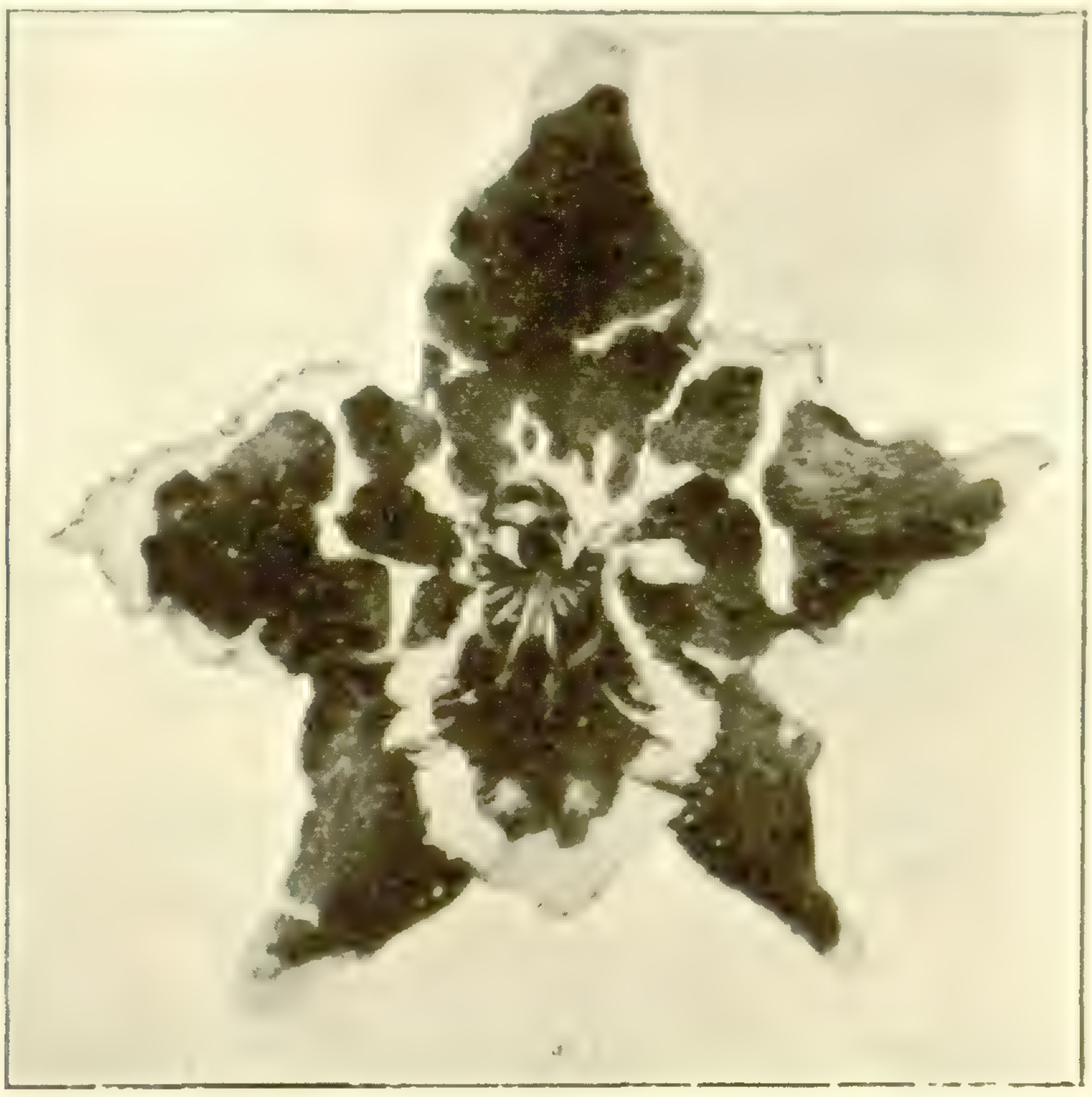

FIG. 20. ODONTOGLOSSUM × MERIFICUM.

O. sceptrum. The present one (fig. 20) bears strong evidence of such an origin, having the general shape and broad round lip of the latter, though the colour and markings have been greatly modified, and here we think we can trace the influence of a heavily blotched form of O. crispum. The ground colour is light yellow, and the markings of the deepest red-brown imaginable. Another flower which may possibly have the same parentage was described at page 170 of our tenth volume (the second one mentioned), but, as in the present case, the parentage had to be inferred from the characters of the flower. Whatever the origin of the plant now figured it

is a great beauty, the size and richness of the markings being remarkable. Unfortunately we have no flower of O. × merificum available for comparison, but assuming the parentage to have been correctly given we think that O. × merificum var. tenebrosum is a suitable name for the present one, on account of its dark colour. This doubtful point may be cleared up hereafter.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Drill Hall, Buckingham Gate, Westminster, on February 9th, when there was a remarkably fine display of Orchids, no less than seven Medals being awarded, one being a Gold Medal for a remarkably fine group shown by Messrs. Sander & Son.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Chapman), gained a Silver Flora Medal for a handsome group containing Odontoglossum Pescatorei albescens, O. P. Prince of Orange, yellow, blotched with brown; O. × Adrianæ aureum, a fine specimen of O. crispum with seventeen flowers on a spike, the handsome O. c. Grace Ruby, O. c. Lowiæ, O. c. xanthotes Oakwood variety, having the orange spots only on the lip; O. c. Brilliant, white with large red-brown blotches, Cypripedium × Calypso Oakwood var., C. × Juno, C. × Wm. Lloyd superbum, Lælia anceps Schrœderiana, Cattleya chocoensis alba magna, &c.

G. F. Moore, Esq., Chardwar, Bourton-on-the-Water (gr. Mr. Page), was awarded a Silver Banksian Medal for an excellent group of Cypripediums, including C. × Evenor, C. × Euryades, the fine C. × Mooreanum, C. × Beeckmanni, C. × Sallieri aureum, the handsome C. × Miss Amy Moore, C. × Mons. de Curte, Swinburne's variety, with large dark blotches on the upper sepal, and others. Awards of Merit were given to the three following plants:—Cypripedium × aureum virginale, a pretty yellowish green flower having the upper half of the dorsal sepal white: C. × Thompsoni (villosum aureum × Calypso), having the dorsal sepal rose-purple below and white above, and the petals and lip yellowish green, tinged with brown, and very glossy; and C. × W. H. Page (niveum × Boxallii atratum), a handsome form of C. × Graceæ, having the flowers white tinged and marked with dark purple, especially on the dorsal sepal.

Captain G. L. Holford, C.I.E., Westonbirt, Tetbury (gr. Mr. Alexander), received an Award of Merit for Cypripedium × Œdippe (parentage unrecorded), a remarkably fine hybrid approaching C. × aureum in shape, and having the dorsal sepal dark rose with a green blotch at the base, and the petals and lip yellow marbled with purple-brown.

Baron Sir H. Schröder, The Dell, Staines (gr. Mr. Ballantine), showed

two plants of Cypripedium × Lathamianum, and Odontoglossum × elegans, Eastwood Park variety.

J. T. Bennett-Poë, Esq., Holmewood, Cheshunt (gr. Mr. Downes), showed a fine example of Ipsea speciosa.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), showed Odontoglossum × Wilckeanum Argus, having the flower large, yellow in colour, and heavily blotched.

H. Little, Esq., The Barons, Twickenham (gr. Mr. Howard), showed some flowers of Lycaste costata.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), exhibited the finely-spotted Cypripedium × Pittianum.

J. Taylor, Esq., Margery Hill, Reigate, sent three excellent spikes of Dendrobium speciosum.

Messrs. Sander & Sons, St. Albans, staged a remarkably fine group, extending the whole length of the Hall, to which a Gold Medal was deservedly awarded. Among the numerous showy things staged must be mentioned the handsome Lælio-cattleya Lucasiana Hindeana (L. tenebrosa × C. labiata alba), a fine hybrid having white sepals and petals, and a rose-purple lip veined with crimson; some good L.-c. × bletchleyensis; L.-c. × warnhamensis var., having the petals tipped with purple, as in Cattleya Trianæ Backhouseana, which is said to have been one of the parents; Miltonia × Bleuana, Cymbidium Ballianum, Phalænopsis, Masdevallia polysticta, flowering profusely, some Zygocolax hybrids, a good blotched form of Odontoglossum crispum, the rare O. nevadense, two good O. × Harryano-crispum, O. × Wilckeanum illustre and other forms of this hybrid, two good O. × loochristiense, several fine Cypripedium × Leeanum and C. × aureum, C. × Lamontianum (× Calypso × Rothschildianum), a fine thing most like the latter, C. × Brilliant (Buchanianum × Calypso) having a deep purple band on the dorsal sepal, which is deep rose below and white above, C. × Sallieri Hyeanum, C. × Charles Richman, and numerous other showy things.

Messrs. Charlesworth & Co., Heaton, Bradford, gained a Silver Flora Medal for a handsome group, containing some fine Lælio-cattleya × Charlesworthii, L.-c. × Gottoiana, L.-c. × Myra, L.-c. × Lilian, L.-c. × Andromeda, the pretty Cattleya × Enid, Bulbophyllum Dayanum, a plant bearing slender spikes of buff-coloured flowers, called Mystacidium Hariotianum, the pretty Cœlogyne sparsa, Cypripedium × Cardosoanum C. × Sallieri, C. × Hitchinsiæ, C. villosum auriferum, and many Odontoglossoms, including O. grande Fascinator, in which the markings were purple instead of brown. An Award of Merit was given to Cypripedium × Œdippe, a plant noted under Captain Holford's group.

Mr. J. Cypher, Cheltenham, received a Silver Banksian Medal for a

showy group, including some good Dendrobium × Cybele, D. nobile giganteum, a fine D. × Schneiderianum, D. × Dominianum, Lælio-cattleya × Hippolyta, Phaio-calanthe × nivalis, and some hybrid Cypripediums.

Messrs. Hugh Low & Co., Bush Hill Park, staged an excellent group, which gained a Silver Banksian Medal. It contained Phalænopsis Schilleriana, P. Stuartiana, P. Aphrodite, a fine specimen of Cattleya Trianæ with sixteen flowers, C. T. alba, Dendrobium crassinode, D. Wardianum, Cymbidium elegans, Epidendrum elegans, Hæmaria discolor, Cypripedium × Thompsoni, C. × T. inversa, and others.

Messrs. B. S. Williams & Son, Holloway, showed a good group of Cypripediums, eighteen varieties in all, the best being C. × Pitcherianum Williams variety, together with Calanthe × bella, Lycaste lasioglossa, and L. Skinneri alba. A Silver Banksian Medal was deservedly awarded.

Messrs. James Veitch & Sons, Chelsea, showed a group of Cypripediums, including the finely spotted C. × Euryades excellens, C. × aureum virginale C. × Miss Louisa Fowler, several Zygocolax hybrids, and other plants.

Mr. H. A. Tracy, Twickenham, sent a good form of Cattleya Trianæ and two hybrids of Cypripedium Charlesworthii.

Mr. Charles Vuylsteke, Loochristi, Ghent, showed a handsome Odonto-glossom × Vuylstekei, two forms of O. × Wilckeanum, and Lælio-cattleya × bletchleyensis.

M. C. Beranek, Rue de Babylone, Paris, sent two hybrid Cypripediums said to have been derived from C. Godefroyæ leucochilum and C. Lawrenceanum and from the former and C. Spicerianum.

The Report of the Scientific Committee for the same date contains the following:—

COLOUR PHOTOS. OF ORCHIDS:—Mr. Hickley, natural colour photographer, of Kelso, Bassett, Southampton, exhibited some very beautiful transparent illustrations of Orchids in their natural colours. They were effected by a special process of Mr. Hickley's, on plates sensitive to the primary colours—red, green, and violet; but the special treatment by which the excellent results were secured is not yet patented. It was enquired as to the cost of such for lantern-slides. These would be from 5s. 6d. to 10s. 6d. A vote of thanks was given to Mr. Hickley for his interesting exhibitions and description.

At the meeting held on Feb. 23rd there was a particularly fine display of Orchids, and no less than eight Medals were awarded, besides six other awards.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged

a splendid group, which was awarded a Silver-gilt Flora Medal. It contained some fine plants of Sophronitis grandiflora, one with over sixty flowers; Epidendrum porphyreum, Cattleya Trianæ, with eighteen flowers, C. T. Backhouseana, Cypripedium × Confetti, C. × Sallieri, with ten flowers, C. × hirsuto-Sallieri, C. × Lathamianum, with fourteen flowers, C. × Ledouxiæ, Odontoglossum coronarium miniatum, O. × Humeanum, Calanthe Stevensii, C. Sanderiana, Dendrobium × Ainsworthii Hazelbourne variety, D. Kingianum album, D. signatum aureum, a lot of D. × Melpomene, a plant of D. × Wiganiæ xanthochilum, with fifty flowers, Ada aurantiaca, with fourteen spikes of flowers, Miltonia fuscata, Spiranthes colorata picta, Epilælia × Psyche, Mormodes buccinator Rolfei, some Masdevallias, and other plants.

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), staged a fine group, which secured a Silver-gilt Flora Medal. It contained many good forms of Dendrobium nobile, including three good D. n. album, D. × Rubens elegans, D. × R. Miroir, D. × Othello, D. × Rolfeæ, D. × Artemis, D. × Wiganianum purpureum, D. × Aspasia, D. × Sibyl, D. × Owenianum, D. × Firefly, many varieties of Cattleya Trianæ, the most interesting being C. T. Mrs. J. Colman and C. T. Penelope, Zygocolax × Veitchii, Vanda Cathcartii, Cypripediums, Odontoglossums, and other good things.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. Black), was awarded a Silver Flora Medal for an effective group, chiefly of Dendrobiums, including D. nobile murrhiniacum, in fine condition, the large and richly-coloured D. n. Thwaites' var., a large plant of D. × Wiganiæ, D. Brymerianum, D. × Schneiderianum, some good Odontoglossum crispum, and others.

J. Bradshaw, Esq., Southgate (gr. Mr. Whitelegge), showed a pretty group, to which a Silver Banksian Medal was awarded. It contained some strong Odontoglossum crispum with branched spikes, grown in leaf compost, O. × excellens, O. × Adrianæ and other Odontoglossums, a good Lælia × Digbyano-purpurata, Cattleya Trianæ Mavourneen, a large white flower with a tinge of pink on the lip, Lycaste Skinneri alba, L. S. Enchantress, and others.

R. Briggs-Bury, Esq., Bank House, Accrington (gr. Mr. Wilkinson), showed Cypripedium × Minos Young's variety and C. × Beeckmanni, the latter obtaining a First-class Certificate. This was a very fine hybrid, with greenish-yellow flowers, the dorsal sepal being heavily blotched with dark purple, and the sepals and lip tinged with a lighter colour.

Capt. G. L. Holford, Westonbirt, Tetbury (gr. Mr. Alexander), exhibited Cymbidium × Ballianum, a handsome form believed to be a natural hybrid between C. eburneum and C. Mastersii. The spike bore four pure white

flowers, having more pointed segments than in C. eburneum, and the crest of the lip yellow.

Kennedy Jones, Esq., Knightons, E. Finchley (gr. Mr. King), showed some well-cultivated Cœlogyne cristata, a Cultural Commendation being given.

F. W. Moore, Esq., V.M.H., Royal Botanic Gardens, Glasnevin, Dublin, sent a splendid spike of a large and handsome form of Cymbidium grandiflorum, and also Dendrobium Williamsoni, the latter, a Himalayan species, having white flowers, with some orange markings on the lip, receiving a Botanical Certificate.

J. G. Fowler, Esq., South Woodford (gr. Mr. Davis), sent Cypripedium × J. Davis (?Dauthieri × Leeanum), the flower being light in colour, tinged, and spotted with rose.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), sent Cypripedium × aureum Surprise, a handsome yellow and white flower.

J. C. F. Ramsden, Esq., Guildford, sent a yellow form of Cypripedium × Harrisianum.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed the pretty Cypripedium villosum pulchellum.

Messrs. Sander and Sons gained a Silver-gilt Flora Medal for a large and handsome group, containing some magnificent specimens of Dendrobium Wardianum, D. W. xantholeucum, some Lælio-cattleya × bletchleyensis, L.-c. × Doris Sander's variety, a number of good Odontoglossum crispum, O. × nevadense, O. × Wilckeanum, O. × loochristiense, Cypripedium × aureum Olympus, C. × Persephone (Lathamianum × exul), and many other plants.

Mr. J. Cypher, Cheltenham, secured a Silver Flora Medal with an effective group, containing many fine plants of Dendrobium barbatulum, D. nobile, D. × Ainsworthii and other Dendrobes, Cypripedium × Goweri, C. × Lathamianum, C. × Maudiæ, C. villosum giganteum, plants of Cattleya Trianæ, Masdevallia × Heathii, M. × Hincksiana, Miltonia × Bleuana, and others.

Messrs. J. Veitch & Sons, Chelsea, gained a Silver Banksian Medal for a good group, containing Lælio-cattleya × Myra, L.-c. × M. alba, L.-c. × Pallas, L.-c. × highburiensis, L.-c. × Orpheus (C. Trianæ × L. glauca), L.-c. × warnhamensis, L.-c. × callistoglossa, Cypripedium × Miss Louisa Fowler, several forms of Dendrobium × Scylla (Cybèle × japonicum), Masdevallia × Imogen, Epidendrum × O'Brienianum, and Phalænopsis × Hebe. Awards of Merit were given to Sophro-cattleya × Saxa (S. grandiflora × C. Trianæ), a dark rose-coloured hybrid, and to Cymbidium Wilsoni, an interesting species, allied to C. giganteum, sent from Yunnan by Mr. E. H. Wilson.

Messrs. H. Low and Co., Bush Hill Park, obtained a Silver Banksian Medal for a nice group, containing many finely-flowered specimens of Dendrobium crassinode, D. primulinum, some handsome forms of Cattleya Trianæ, Cypripedium × Calypso, C. × J. Howes, C. × nitens magnificum Phalænopsis Stuartiana, &c.

M. Ch. Vuylsteke, Loochristi, Ghent, exhibited two plants of O. × loochristiense, a handsome O. × bellatulum, a plant of O. × ardentissimum with purple markings on the segments, O. × Vuylstekei recens, and O. × V. concinnum, both the latter being fine dark forms.

Mr. Henkel, Darmstadt, sent a white form of Cattleya labiata.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING of the Manchester and North of England Orchid Society was held at the Coal Exchange, Manchester, on February 5th, when there was a good display of Orchids.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent a choice collection of Odontoglossums, to which a Bronze Medal was awarded. Some good forms of O. × Wilckeanum were noteworthy, and an Award of Merit was given to O. × crispo-Harryanum var. Regina.

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), received a First-class Certificate for Cymbidium × alportense, a handsome hybrid said to have been derived from C. insigne Harefield Hall var. and C. Boxallii, and surpassing the first-named in size.

Mrs. Ardern, Stockport (gr. Mr. Morris), received an Award of Merit for the handsome Odontoglossum × Andersonianum var. Hebe.

A. Warburton, Esq., Haslingden (gr. Mr. Bailey), received an Award of Merit for Cypripedium × Hindeanum, Warburton's var.

J. E. Williamson, Esq., The Grange, Stretford, sent several good things, and received an Award of Merit for Cattleya Trianæ var. albida.

M. Ch. Vuylsteke, Loochristi, Ghent, sent six fine Odontoglossums, receiving a First-class Certificate for O. × Wilckeanum var. Minos, and Awards of Merit for O. × Vuylstekei var. gratiosum and O. × Harryano-crispum var. Talma.

Messrs. A. J. Keeling & Sons, Westgate Hill, Bradford, received a Bronze Medal for a nice group, and an Award of Merit for Cypripedium × Graceæ, a pretty hybrid derived from C. Boxalli × C. niveum.

Messrs. Hugh Low & Co., Enfield, received Awards of Merit for Cypripedium × Watsonianum and C. villosum var. Lowii, the latter an albino.

Messrs. John Cowan & Co., Gateacre, and Mr. John Robson, Altrincham each staged a small collection of plants, to which a Vote of Thanks was accorded.

ORCHIDS IN SEASON.

CATTLEYA PERCIVALIANA is a handsome winter-blooming Orchid, though for some reason it does not always expand its flowers as well as could be wished. An inflorescence of a very richly-coloured variety called Mrs. R. le Doux has been sent from the collection of R. le Doux, Esq., West Derby, Liverpool, by Mr. S. Davenport, who states that the plant has six leading growths, and that it received both an Award of Merit and a Cultural Certificate from the Manchester Orchid Society on February 22nd last. The shape of the flower is good, and the sepals and petals bright rosy lilac, while the front lobe of the lip, in front of the deep orange-yellow disc, is covered with one enormous dark crimson blotch, beyond which is a broad lilac margin. The plant must have been very effective when at its best.

A beautiful inflorescence of Cattleya Schrœderæ is sent from the collection of Benj. Scott, Esq., Linden House, Stanwick, Carlisle. Mr. Scott states that it was purchased some three or four years ago among some imported C. Trianæ, and has flowered freely with him, though it is obviously something else. The delicate colouring, more crisped flowers, and delicious heliotrope-like fragrance are characteristic of this Cattleya, which is said to grow in a different locality from C. Trianæ. It would be interesting to know whether this plant actually came home with C. Trianæ or got mixed with it afterwards.

Two good-coloured forms of Lælia anceps are sent from the collection of E. J. Lovell, Esq., Oakhurst, Oxted, by Mr. Jones. They are out of the same pan, but one is considerably darker than the other, and not improbably two distinct plants have got potted up together. A good form of Odontoglossum Andersonianum is also sent, having a yellow ground colour, and numerous dark brown markings. It is accompanied by a good form of O. gloriosum, one of the parents.

Two fine spotted forms of Paphiopedilum insigne are sent from the collection of Captain Twiss, Bridhill House, Limerick, one of them bearing a very strong twin-flowered scape. We do not recognise them, but whether they are identical with any of the numerous spotted forms that have been named we are unable to say.

A flower of the large and brilliantly coloured Cattleya Trianæ Imperator is sent from the collection of Captain Holford, Westonbirt, Tetbury, by Mr. Alexander. It is of perfect shape, and measures over 6½ inches in expanse, while the petals are over 2¼ inches broad. The colour is lilac-rose, with the front of the lip dark purple-crimson, the colour extending so far back in the throat as to nearly obliterate the orange yellow blotch. It is a most beautiful form.

A fine inflorescence of Phaius Blumei is sent from the collection of Sir

James Miller, Bart., Manderston, Duns., N. B., by Mr. Hamilton. The sender remarks that it is a grand grower, plants in 8-inch pots producing as many as ten spikes of flower.

Flowers of the fine Cattleya Trianæ Leeana and Paphiopedilum × calloso-Mastersianum are sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell. They were grown at his country residence, Ladymeade, Hants., by Mr. Wootton. The latter is fairly intermediate in character. Flowers of a pretty little hybrid derived from Phragmopedilum × cardinale ♀ and P. Schlimii ♂, and of a second seedling supposed to have the same parentage, are also sent. They most approach the seed parent in character. It is curious to note that this represents the result of a third cross with P. Schlimii.

An inflorescence of the pretty albino Miltonia Warscewiczii xanthina is sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers. The flowers are greenish yellow, with a broad white border to the lip, otherwise conforming to the type. Also a seedling, now flowering for the second time, believed to have been derived from Paphiopedilum villosum × Lathamianum. It has the appearance of such an origin, being like a good form of the former, with a broad, clear white margin to the dorsal sepal, and a distinct trace of the broad purple median band.

ORCHIDS AND LEAF MOULD.

Is leaf mould a proper soil for Orchids?

This question is one of the most real before the horticultural world to-day. Our columns have already held several important letters and articles upon the subject, but, despite the attention given, we are apparently as far as ever from a real solution. Before the meeting of the Horticultural Society of New York, on Wednesday, two skilful Orchid growers—E. O. Orpet, of South Lancaster, Mass., and C. W. Schneider, of Irvington, N.Y.—stated views seemingly diametrically opposed. While Mr. Schneider advocated the adoption of leaf mould, Mr. Orpet on the other hand most emphatically condemned it as a soil unfit for Orchids.

On the one hand it was told that the domestic leaf mould was not so porous as that known as Belgian, and on which the European growers relied. Mr. Schneider proposes to remedy this condition by adding sand and charcoal, which, of course, provides drainage.

Mr. Orpet states unequivocally that the roots of Orchids growing in leaf mould will decay as the leaf soil itself rots.

Are these two growers so very far apart in their ideas? It may certainly be conceded that in their native haunts the epiphytal Orchids will be found with various dead and dying leaves, bits of woody twigs, etc.,

about their roots; but that this is to be taken as evidence that leaf mould dug from the ground is demanded by the Orchid seems to us to be assuming altogether too much. Debris of one sort and another will naturally collect about the roots in a state of nature: its presence is accidental and its service, if any, but very slight.

Some remarkable successes with leaf mould are reported by European growers; so far our cultivators have not found any special merit in the use of the article. It is possible that the conditions of culture on the different sides of the Atlantic, and the different methods of watering which are followed on account of different climatic conditions, will account for these varying reports. On the admission of those who advocate the use of leaf mould here drainage has to be specially provided for and even sterilizing by steam.

From a purely practical standpoint, therefore, is the game worth the candle? Is there any necessity of making a new Orchid culture for the sole purpose of saying that we can grow Orchids in leaf mould?—*American Gardening*.

Mr. E. W. Davy, gardener to J. J. Neale, Esq., of Penarth, writes:—"Oncidium tigrinum has benefited more than any other Orchid we have through using a leaf compost. They have been flowering in succession for over six months, bulbs only half the size of those in the old compost throw stronger spikes, and twice as freely. The pots are as small as possible, and the compost half peat and half leaves, with a little sand and sphagnum, and made as firm as possible. When potted the flowers of all species last well. I find some potted in larger pots and looser compost do not last as long."

SACCOLABIUM VIOLACEUM VAR. HARRISONIANUM.

A PLANT of this rare and pretty variety of Saccolabium violaceum has just flowered with Messrs. Stanley Ashton & Co., Chase Side, Southgate. It originally appeared with Messrs. Hugh Low & Co. in 1863, and was figured in the *Botanical Magazine* (t. 5433) under the name of Saccolabium Harrisonianum, but afterwards proved to be an albino of S. violaceum, and was figured under the above name in the *Orchid Album* (v., t. 236). It differs from the type in the complete absence of the purple spotting from the sepals and petals, and the purple suffusion from the lip, leaving the flowers white, with the column light green. It is a very pretty little plant when well grown.

R. A. R.

PHAIUS BLUMEI VAR. BERNAYSII.

THIS pretty yellow variety of Phaius Blumei has again appeared in cultivation, having just flowered in the Kew collection. It was first described in 1873, under the name Phaius Bernaysii (Rchb. f. in *Gard. Chron.* 1873, p. 361), from a specimen which flowered with Messrs. James Veitch & Sons, and it afterwards appeared that it was named by Baron Ferdinand von Mueller, after Mr. Lewis A. Bernays, F.L.S., Vice-President of the Queensland Acclimatisation Society, who discovered it on Stradbroke Island, an island of Moreton Bay, South Queensland, near Brisbane, and sent a case of plants to Messrs. Veitch through his friend Dr. Rowland, of Malvern, who was at first accredited as its sponsor. Mr. Bernays remarked :—"I found the plant on Stradbroke Island, among thousands of its congener, Phaius grandifolius, from which, when not in flower, it is with difficulty distinguished. These plants occupied many acres of swampy land, and being in full bloom were inexpressibly beautiful. The effect was heightened by the margin of the swamps being lined with the beautiful fern, Todea superba, breast-high; and in places this was so densely interlaced with the delicate climbing fern, Lygodium microphyllum, that we had to cut our way through."—*Gard. Chron.*, 1873, p. 1244.

Reichenbach had some doubt of its specific distinctness; and it was afterwards figured under the name of Phaius Blumei var. Bernaysii (Hook. f. *Bot. Mag.*, t. 6032), on the ground that it differed from P. Blumei in colour only, having the inner surface of the sepals, petals, and lip sulphur yellow, instead of reddish brown. The back of the sepals and petals is white, as in the type, and the contrast of colour is very curious. It does not seem to be in the self-fertilising condition mentioned by Messrs. Veitch in their *Manual* (vi., p. 11) for the flowers open perfectly. Where the present plant came from is not clear, for this sulphur yellow form is also know from Figi, and from the Indian locality of this widely-diffused species.

R. A. ROLFE.

CAPE ORCHIDS.

"A LIST of the Flowering Plants and Ferns of the Cape Peninsula," by Harry Bolus, F.L.S., and Major A. H. Wooley-Dod, has just appeared (*Trans. S. Afr. Phil. Soc.*, xiv., pp. 207-373), from which we learn that 117 species of Orchids, belonging to twelve genera, are known from that rather small peninsula, some 40 miles long, with a width varying of from two to eight or nine miles. Disa heads the list, with no less than forty-seven species. Speaking of the more conspicuous kinds the authors remark :—

"Orchids are numerous in species, some few also in individuals. The

well-known Disa uniflora heads the list, though now seldom seen in quantity, and the beautiful blue species of different hues—D. graminifolia, purpurascens and longicornu, the scarlet D. ferruginea, and the lovely white D. fasciata occasionally occur in considerable numbers. Most of the species of other genera are scattered, and comparatively insignificant in effect, excepting Satyrium coriifolium, which is common, and of which the flowers, though not large nor growing in masses, are of so vivid a flame colour as to attract the eye upon the sandy downs."

THE HYBRIDIST.

CATTLEYA × HESTER.—This is a pretty hybrid derived from Cattleya Harrisoniana ♀ and C. maxima ♂, from the collection of John Craven, Esq., The Beeches, Keighley (gr. Mr. Corney), sent through Messrs. Charlesworth & Co., Heaton, Bradford. It most resembles the former in general character, but the flowers are more membranous, and the petals much broader. The flower is white tinged with lilac, and the disc of the lip yellow. The plant is rather small at present, but it is likely to prove a fine acquisition when properly developed.

A very handsome hybrid Paphiopedilum has also flowered from the same collection, of which we have seen the painting by Macfarlane, It was derived from P. × nitens and P. × œnanthum, and thus is a form of P. × triumphans, one of the best of this particular group.

Another charming little hybrid sent from the same collection was derived from Paphiopedilum villosum ♀ and P. Charlesworthii ♂.

ODONTOGLOSSUM FLAVESCENS, Rolfe.—This is a rather curious Odontoglossum of the section Myanthum, allied to O. retusum, Lindl., but differing in having clear yellow flowers, with a brown margin to the stigma. It appears to be a native of Peru and Ecuador, and was introduced by Messrs. F. Sander & Co., with whom it first flowered in November, 1889, and subsequently on several occasions. It is also said to have come home among Oncidium undulatum, which it so much resembles in general appearance as to have been sold for it, and the difference was not detected until the inflorescence appeared. Recently it has flowered in the Royal Botanic Garden, Glasnevin. The segments are elliptical-oblong in shape, and sub-connivent, while the blade of the lip is rounded below, with an oblong abtuse apex, and a very large and prominent two-lobed crest, which is appressed to the column at its base. The limb of the lip is suberect, not strongly recurved as in O. forcipatum, to which it is also allied.

R. A. R.

ZYGOCOLAX × VEITCHII.

A GOOD plant of this handsome hybrid has just flowered in the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, producing two spikes, and Mr. Young states that it is the one called variety Kromeri, to which an Award of Merit was given by the R.H.S. in November, 1900 (*O. R.*, viii., p. 371). This particular plant is said to have come home in an importation of Brazilian Orchids received by Mr. E. Kromer, Roraima Nursery, Croydon, thus being a natural hybrid. It is therefore the more interesting to be able to compare it with the home-raised form, obtained by crossing Zygopetalum crinitum with the pollen of Colax jugosus, in the establishment of Messrs. James Veitch and Sons. So far as I can see the two are practically identical, and I should not call the wild plant a variety even, so close is the resemblance. It has long been known that the two parent species were natives of the same district of Brazil, but we do not remember any previous evidence that they actually grew intermixed, such as is now afforded. It is a very interesting and beautiful hybrid, the flower having an expanse of three inches, and the sepals and petals being green densely spotted with dark brown, while the lip is white closely veined with violet-purple. It has also an excellent constitution.

R. A. R.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during March, on the 8th and 22nd, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

Meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on March 4th and 18th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 o'clock p.m.

Two special exhibitions of Orchids are announced in connection with the great International Horticultural Exhibition to be held at Düsseldorf, from May last to October 23rd next. The dates are May 1st to 3rd, and October 21st to 23rd. The Orchids will be exhibited in a special building, and the Committee undertakes to pay the carriage of exhibits from and to England, and to put every facility in the way of exhibitors. Prizes to the amount of £700 will be awarded. Cut flowers will be welcomed when it is not convenient to show plants, but Phylloxera certificates must in all cases be sent. Schedules in English may be obtained from Mr. J. O'Brien, V.M.H., Harrow-on-the-Hill.

A photograph of a remarkably well-flowered specimen of Cattleya Mossiæ from the collection of Norman C. Cookson, Esq. (gr. Mr. H. J. Chapman), is given in a recent issue of the *Gardeners' Chronicle* (p. 107, fig. 47). The number of racemes and flowers is not stated, but it is one of the finest examples we have ever seen. It is said to have been grown in a compost of leaf-mould, peat, and sphagnum moss, and promises to be even finer next season.

A fine example of Cymbidium eburneum from the collection of J. Miller Mundy, Esq., Shipley Hall, Derby (gr. Mr. J. C. Tallack), is also illustrated (page 99, fig. 44). The plant has been in the collection for some years, and when photographed was bearing thirteen flowers, eight of which were on twin-flowered spikes.

A supplementary illustration to the issue for February 27th, shows the interior of the Cattleya House of Leopold de Rothschild, Esq., Gunnersbury, Park (gardener Mr. G. Reynolds), taken in November, when the varieties of Cattleya labiata were in bloom, and showing a number of well-grown examples, also some flowers of Dendrobium Phalænopsis.

At a meeting of the Croydon Horticultural Improvement Society held on February 2nd, a paper was read by Mr. W. P. Bound, Gatton Park Gardens, Reigate, entitled "Present-Day Orchid Culture." The various operations were detailed: potting, choice of materials, watering, temperature and ventilation. Feeding with artificial manures was deprecated, but Mr. Bound considered that occasional syringing with soot water was beneficial.

We observe that one of the afternoon lectures of the Royal Horticultural Society for the current year will be devoted to Orchids, the date being July 26th, and the subject "Orchid varieties and hybrids," by Mr. John Bidgood.

It is also interesting to note that after the end of June next the meetings will be held in the new Horticultural Hall, Vincent Square, Westminster, consequently the lecture just mentioned will be held there at the usual hour, 3 p.m.

CYPRIPEDIUM MALFORMED.—At the meeting of the Scientific Committee of the R.H.S., held on February 23rd, Dr. Masters described an unusual Cypripedium flower from the collection of Sir Trevor Lawrence. It had four sepals, two petals, one column with two staminodes, but a three-lobed stigma, and three parietal placentus. It was thus considered as a case of increased number of parts, or an attempt at forming a multifold flower.

Mr. G. F. Morris, who has been one of the partners of the well-known firm of auctioneers, Messrs. Protheroe and Morris, Cheapside, for a period of fifty-eight years, is retiring from the business, on account of advancing years. He is now 73, and in good health, and our readers will join us in wishing him many years of enjoyment of his well-earned leisure.

A fine plant of Cymbidium grandiflorum has just flowered in the Glasnevin Botanic Garden, bearing two racemes of sixteen and thirteen flowers respectively, and all expanded perfectly. One of them appeared at the last meeting of the R.H.S.

The first number of *Contributions from the Ames Botanical Laboratory* is devoted to a very interesting paper entitled "A Contribution to our knowledge of the Orchid Flora of Southern Florida," by Oakes Ames, with illustrations by Mrs. Oakes Ames (22 pages and 12 plates). It has been prepared from material collected by Mr. A. A. Eaton, during November and December, 1903. About 32 species were found, among them being several new to the Flora of the United States or new to science, the most interesting of the latter being Tropidia Eatoni (t. 5), a species of a genus hitherto only known from the tropics of the Old World. In an introductory note Mr. Ames remarks:—"The Orchid flora of Florida, so far as at present known, bears a striking resemblance to that of the West Indies and of Mexico, so that it is not altogether surprising to find that out of the total number of species in the following list twenty, or nearly seventy-five per cent., have been collected by me in Cuba, or have been seen by me in collections from Mexico and Central America."

A photograph of a remarkable specimen of Dendrobium speciosum has been sent by Messrs. Charlesworth & Co., Heaton, Bradford, who received it from C. T. Gosper, Esq., of Sydney. It is labelled "Dendrobium speciosum in natural growth and bloom." It is a noble specimen, exceeding the one figured at page 105 of our tenth volume, and is covered with flowers throughout. It must have been a remarkable sight when in full bloom.

An inflorescence of a bright yellow form of the same species is sent by Messrs. Hugh Low & Co., of Bush Hill Park. The spikes are said to be fifteen inches long, and to bear from fifty to eighty flowers.

The last part of the *Icones bogoriensis* is devoted to descriptions and figures of Malayan Orchids, by J. J. Smith, of Buitenzorg, Java, about 60 species being figured on twenty-five plates, most of them being novelties of botanical interest. Dendrobium comes first in point of numbers, with eleven species, and Microstylis next with seven.

A fine group of Cypripedium insigne at West Point, Whalley Range, the residence of S. Gratrix, Esq., is figured in a recent issue of *The Garden* (p. 101), and shows excellent culture on the part of Mr. G. Cypher, Mr. Gratrix's gardener.

ORCHID PORTRAITS.

BULBOPHYLLUM AURICOMUM, Lindl.—*Bot. Mag.*, t. 7938.

CATTLEYA × DUCHESNEI.—*Rev. Hort. Belge*, 1904, p. 3, with plate.

CATTLEYA MOSSIÆ.—*Gard. Chron.*, 1904, i, p. 107, fig 47.

CYMBIDIUM EBURNEUM.—*Gard. Chron.*, 1904, i, p. 99, fig. 44.

CYPRIPEDIUM INSIGNE.—*Garden*, 1904, i., p. 101, with fig.

CYPRIPEDIUM × MORTENI.—*Gard. Mag.*, 1904, pp. 102, 103, with fig.; *Journ. Hort.*, 1904, i, p. 113, with fig.

CYPRIPEDIUM × TESSELLATUM PORPHYREUM.—*Journ. Hort.*, 1904, i, pp. 92, 93, with fig.

DENDROBIUM GLOMERATUM.—*Garden*, 1904, i, p, 123, with fig.

DENDROBIUM × SPLENDIDISSIMUM GRANDIFLORUM.—*Garden*, 1904, i, p. 140, with fig.

DENDROBIUM TREACHERIANUM.—*Journ. Hort.*, 1904, i, pp. 136, 137, with fig.

LÆLIO-CATTLEYA × BLETCHLEYENSIS RUBY KING.—*Gard. Chron.*, 1904, i, p. 88 with suppl. fig

LÆLIO-CATTLEYA × MYRA CHARLESWORTHII.—*Journ. Hort.*, 1904, i, p. 157, with fig.

ODONTOGLOSSUM PESCATOREI, vars. LINDENI, SCHRŒDERIANUM, and VEITCHIANUM.—*Gard. Chron.*, 1904, i, p. 131, fig. 54.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

A.L.J.—A Dendrobium of the Pedilonum group, allied to D. O'Brienianum, but its exact identity is uncertain.

H.G.A.—A good round form of Lycaste Skinneri.

R.G.T.—Epidendrum odoratissianum.

J.F.S., Pittsburgh.—Oncidium Cavendishianum (the larger one) and O. ansiferum.

R.N.—The "grubs" found in the growths of Lælia purpurata look like the larvæ of the Cattleya Fly, an insect figured at page 241 of our eighth volume. You should keep a sharp watch for others, so as to avoid an outbreak of this dreaded pest.

Photographs received, with thanks. J.C., T.L.M., T.W. (an unfixed print, which we will try to identify. Please not to send another in this condition, as we only detected it in time to save the impression).

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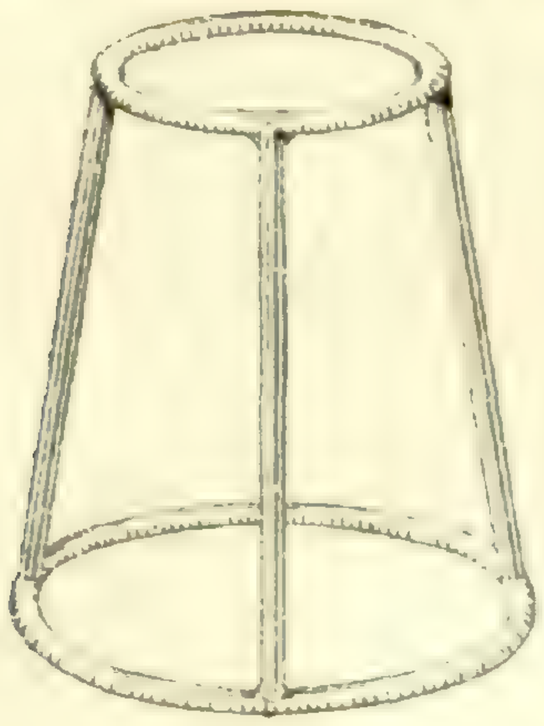

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A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

Full details appear in the present issue.

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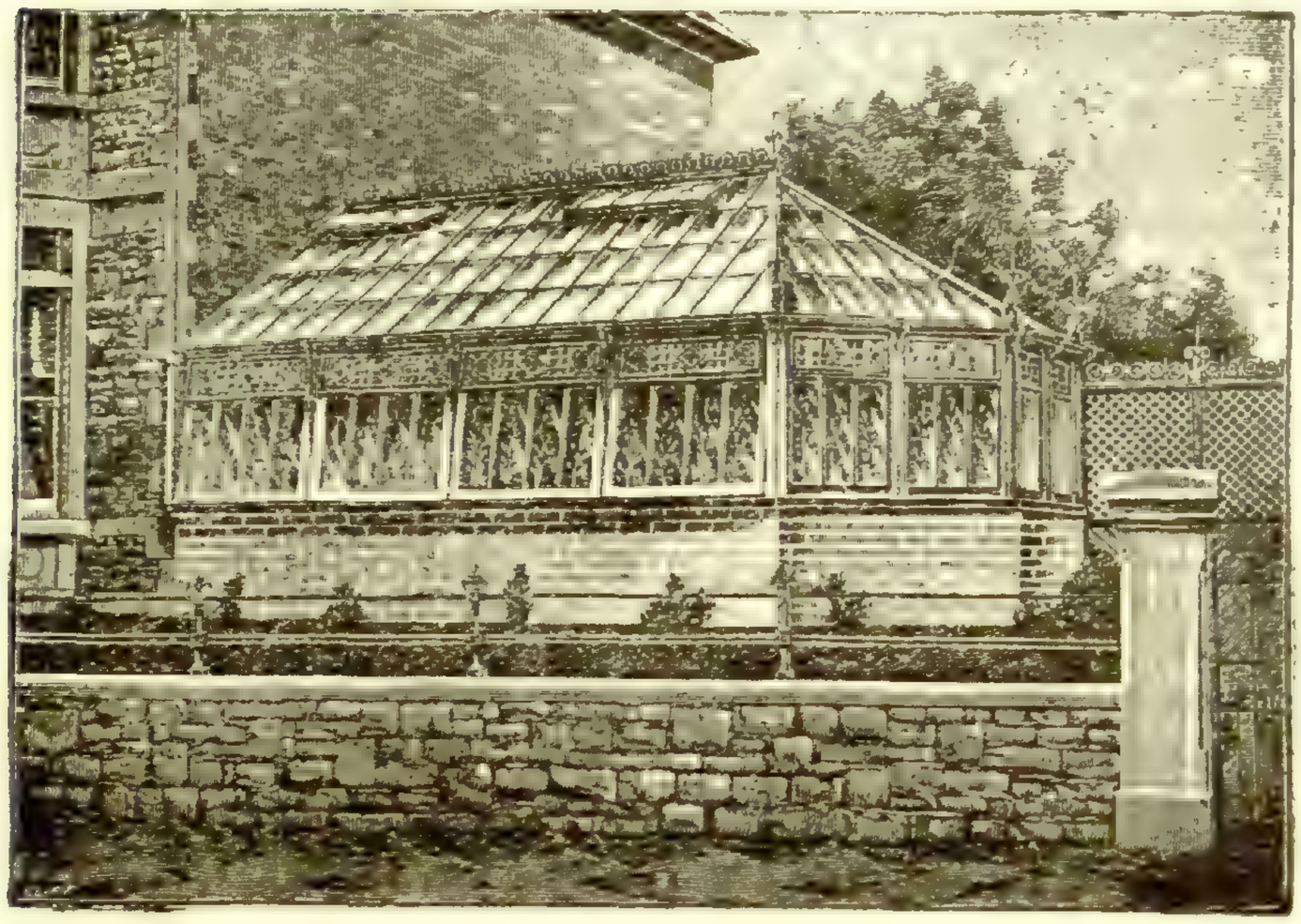

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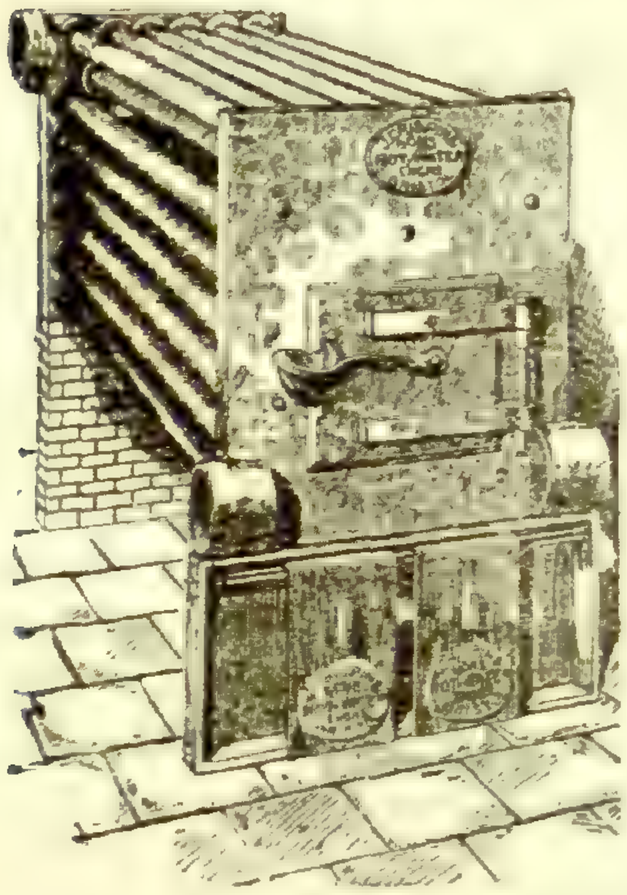

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XII.] *APRIL*, 1904. [No. 136.

DIES ORCHIDIANI.

THE recent announcement respecting the forthcoming *Orchid Stud-Book*, (page 65) is the most important which we have had for some time. About three years ago we had a discussion respecting the Registration of Novelties, for which it was proposed to establish a sort of Central Institution. I then commented on the proposal (vol. ix, p. 97), and was rather curious as to how the idea would develop. Nothing, however, came of it, and now the proposal crops up again in another form, at all events so far as hybrids are concerned. The idea of compiling an *Orchid Stud-Book* was an excellent one, but it has evidently been recognised that even a book of Records would rapidly get out of date, and so it is announced that the additions will be recorded monthly in the REVIEW as they appear, arranged on the same system.

Such a scheme has long been badly wanted. I have got rather tired of calling attention to confusion in nomenclature, and indeed it seems of little use when we have no up-to-date standard of reference. Those who wish to avoid the multiplicity of names for the same hybrid, so frequently complained of, scarcely know where to look for the necessary information as to what crosses have already been raised, so rapidly do the various lists become out of date. And the want of uniformity which has characterised many of the records of recent years, owing to the existence of several different systems, has been rather bewildering. Some hybrids have no names at all, their parentage alone having been recorded, which in some cases has arisen from the uncertainty as to whether they had previously flowered, and the praiseworthy desire to avoid adding to the existing confusion. With the appearance of the *Orchid Stud-Book* this uncertainty should be removed. The prospectus issued states that the work aims at providing a standard of nomenclature, as well as a ready means of ascertaining what hybrids have already been raised, and this should add immensely to its value. The appearance of the work will be awaited with considerable impatience, and I hope all my readers will show their appreciation of this very practical

attempt to solve an extremely difficult question by giving the work their active support. The work should be of the greatest utility to every raiser of hybrid Orchids, and what Orchid grower is not also a raiser now-a-days?

I have watched the controversy respecting the use of leaf-mould with a great deal of interest, and am astonished at the utterly contradictory views expressed by those who have tried it. The notes given at pages 89 and 90 of your last issue are very good examples of this, but the net result can scarcely be called satisfactory. I have just come across some further notes of the discussion before the New York Horticultural Society (*Amer. Gard.*, 1904, p. 132), which it may be interesting to reproduce, as it is difficult to condense them further. They are entitled "Food for Orchids," and are as follows:—

"It will be well to burst the leaf-mould bubble, and relegate it to the place where 'Jadoo' gracefully reposes. We have tried the leaf-mould carefully, and were at the time anxious to get all there was in it—for the plants. They were tried in it for nearly a year, but before the end of that period it was seen to be very injurious; the plants had all 'wet feet,' the compost having decomposed so rapidly as to wash down among them, and clog the drainage. This very nearly finished the plants; many have not yet recovered, but all suffered, as did the Cattleyas tried in similar material.

"It must not be imagined that these trials were made in a haphazard manner. All potting and subsequent watering was done with my own hands—and with judgment—with the result that nothing is now used but Osmunda root fibre, and there is no better material to be had.

"There is altogether too much stress placed upon the 'component parts' of a compost for Orchids. Cultivators have yet to be weaned from the idea that seems all-pervading, that the roots take up from the potting medium food for their sustenance as do other classes of terrestrial plants. The only instance that memory brings is of the grower who planted Orchids in some mechanical substance, such as asbestos, and by judicious watering with plant foods in the liquid states, attained surprising results. The great value of our Osmunda root lies in its indestructibility, remaining a sweet and healthy rooting medium for years. It is said to be rich in potash, but this is very slowly available, not nearly sufficiently rapid to sustain the plants during growth, to say nothing of the drain upon their vitality during the flowering season.

"Hence, we were forced to the conclusion that something was lacking; that the tens of thousands of Orchids imported were being literally starved to death, for it may be pretty surely understood that though air plants, air alone will not feed them, and being air plants, soil will not feed them.

"After experimenting in various ways with water containing nitrate of soda and ammonium sulphate, we could see that there were good results derived, but the need was ever felt of a formula that was based on the exact needs of the plants—one that would eliminate the element of uncertainty as to strength of solution.

"It was at this stage that Cookson published his formula in the ORCHID REVIEW, and he stated that by its employment on plants separated by its use merely—otherwise on the same bench—he could easily pick out the ones his gardener had applied it to, and in the light of our experience this is easily believed.

"The formula Cookson recommends is: three ounces of nitrate of potassium, two ounces of ammonium phosphate by weight, dissolved in three gallons of water, then one liquid ounce is used of this solution to each gallon of water applied to the plants.—E. O. Orpet, in address before the Horticultural Society of New York."

It is quite clear that something was wrong. I should suspect too much water; and perhaps the leaf-mould was not of the right kind. But the writer goes into the matter deeply, and gets right down to the reason of things. He speaks of cultivators having yet to be weaned from the pervading idea that the roots of Orchids take up food for their sustenance from the potting medium, like other terrestrial plants. But thousands of Orchids are terrestrial plants, and they certainly obtain their food in the same way. Then he speaks of the indestructibility of Osmunda fibre, hence the food supply was insufficient, and he was forced to the conclusion that tens of thousands of Orchids were being "literally starved to death"; yet he adds "soil will not feed them." Now it strikes me that both fallen leaves and Osmunda fibre come under the head of decaying vegetable matter, though one decays and gives up the food supply too fast and the other not fast enough, so that the happy medium might be found by combining the two in the right proportions. However, Mr. Orpet seems to have found salvation in the use of the "Cookson formula" combined with indestructible Osmunda fibre, though he almost suggests that the latter might be replaced by some such material as asbestos, with equally good results. The one point that is clear to me after a perusal of the article is that the "compost" must be of the right mechanical composition, and that it must contain the necessary food. How the food is to be got there is a matter of secondary importance. It is well known that, in a wild state, epiphytic Orchids derive a great part of their food supply from decaying vegetable matter, in which decaying leaves form no inconsiderable item. If cultivators can find an efficient substitute, well and good; but in cases of failure it is not so much the fault of the leaves as of the method of using them. One may have too

much leaves and too little drainage, and in some cases other ingredients are necessary, for all Orchids do not grow under identical conditions in this respect, by any means. The last word on this question has evidently not yet been said.

But let us turn to a more poetic subject, namely, the "return of spring," as seen by Mr. Lewis Morris:—"Just at present it is in the carefully tended glasshouses that the first files of the advancing pageant are most fully seen. I know nothing pleasanter than the air of such a place, not unduly warm or damp; not devoted to the uncanny Orchid, which spells death to so many honest lads who come out at dawn from the reeking heat to be stricken with death by the cruel east wind" (*Gard. Chron.*, 1904, ii. p. 193). I know not whether this comes under the head of poetic licence, but I fear that the Orchidological education of this gentleman has been somewhat neglected.

ARGUS.

MILTONIA VEXILLARIA.

UNDER the title "Success with Miltonia vexillaria" we find an interesting article by Mr. E. O. Orpet in *American Gardening* for February 27th (p. 132), accompanied by a photograph of a fine plant of what looks surprisingly like M. × Bleuana. Mr. Orpet recommends pans in preference to pots, as the plants are shallow-rooting subjects, and it may be noticed in repotting that the roots are always near the surface. Repotting is done when the new growth is about half developed, this being the time when new roots are emitted in quantity, and fresh material is taken hold of at once, the plants becoming fully established at flowering time. After flowering the plants are allowed to rest and recuperate in a cool shady place, watering being given as needed, and in early autumn they begin to grow again. A winter temperature of 50° to 55° is recommended, and during the four winter months, any direct sunlight that reaches the plants is considered beneficial, as it imparts to the foliage a ruddy bronze tint that denotes healthy conditions and a promise of abundant bloom. Humidity in the air is beneficial at all times, but spraying overhead is avoided, as water lodging at the base of the leaves is liable to cause decay. The compost is not mentioned. Mr. Orpet deprecates using the plants for room decoration, as he once lost a very fine lot of plants through it. "The graceful arching sprays last often six weeks on the plants, and we had branching stems, one of which bore fourteen flowers, and the display was beautiful. When the flowers had passed, however, we found that the plants had, too—for not one survived the ordeal."

ORCHIDS FROM WESTON-SUPER-MARE.

A BEAUTIFUL series of flowers is sent from the collection of W. M. Appleton, Esq., of Weston-super-Mare; mostly hybrid Paphiopedilums, and containing a good proportion of novelties. First, however, must be mentioned a flower of Lælia superbiens, which is rather interesting, as the plant from which it was cut is said to have come home in a piece of white Lælia anceps, thus affording evidence that the two grow together. An abnormal flower of some Paphiopedilum is very puzzling, as it consists of four sepals in opposite pairs, a whorl of four undulate petals, two imperfect lips, four anthers, a single staminode, and one stigma—all more or less abnormal—which suggests that in some way two flowers have become fused together. Last year a flower sent from the same plant was also abnormal, as described at page 127 of our last volume. It appears to be a hybrid of P. Spicerianum, possibly a form of P. × Medeia.

Paphiopedilum × villexul (villosum × exul) is a striking and beautiful hybrid, having flowers of intermediate shape, and bright yellow in colour, with a broad white margin to the dorsal sepal, on the centre of which are numerous very dark brown blotches, with some smaller ones at the base of the petals. P. × Madiotianum is a pretty hybrid from P. villosum × Chamberlainianum, retaining much of the general habi of the latter, but a greater approach to P. villosum in the details of the flower. P. × Kamilii agrees with the preceding, except that P. Boxallii replaces P. villosum as the seed parent, and there is more brown on the dorsal sepal, and the petals have more of the shape and reticulations of that parent. In a similar way P. × Venilia agrees with P. × Madiotianum, except that P. Victoria-Mariæ replaces P. Chamberlainianum as the pollen parent. The seedling agrees well with the original, described at page 58. The influence of the pollen parent is very obvious in the shape and colour of the lip and petals. Another pretty hybrid was raised from P. × Leeanum Masereelianum × Chamberlainianum, and thus is a form of P. × Mariæ. It recently received an Award of Merit from the R. H. S. under the name of Cypripedium × Morteni. It resembles the preceding hybrid in habit, but has some handsome purple markings on the dorsal sepal and petals. P. × Dowlingianum (insigne × Psyche) is a gem, having a cream-yellow flower with large purple blotches on the dorsal sepal, and smaller ones on the petals. It is said to be much better than the original. P. × Phœbe (bellatulum × philippinense) is a handsome hybrid, quite intermediate in character, which Mr. Appleton describes as one of the best and darkest forms he has yet raised. P. × Elsie (Boxallii × Charlesworthii) is another charming thing, fairly intermediate in character, but most resembling the latter in the colour of the dorsal sepal, while the whitish

staminode bears a very prominent yellow central tooth. P. × Schlesingerianum is represented by one of the finest forms we have seen, having the blotches on the dorsal sepal exceptionally large. We now proceed to describe briefly the novelties:—

P. × IRENE (Boxallii × exul) bears a considerable resemblance to P. × villexul, but the flower is more green, the dorsal sepal has a broader white margin, and the staminode and lip are rather smaller. On the whole it has rather more of the P. exul shape.

P. × YOLANDE (barbatum × exul) is a neat and well-coloured flower, most resembling the former parent. The dorsal sepal is green at the base, with some small blackish spots, and between this and the white margin the colour is purple. The petals are intermediate in shape, greenish suffused with purple, except at the base, where they are spotted with dark brown; while the lip is suffused with purple.

P. × MARGERY (tonsum × exul) most resembles the former parent in shape and colour. The dorsal sepal is ovate, with a broad white margin, the central part being green spotted with brown. The petals are green, suffused with light purple, and the basal part well spotted with brown, while the lip is greenish suffused with light purple. The exul character is not very apparent, but can be traced in the staminode.

P. × SALLY (barbatum × Sallieri Hyeanum) recalls a light form of P. Ashburtonæ, from which it differs in having part of its insigne parentage replaced by P. villosum. It is likely to be a vigorous grower.

P. × ETHEL (Stonei × Chamberlainianum) has much of the habit of the latter, but is most like the former in floral details, having attenuate petals, and an acute dorsal sepal; also some brown striping on a light ground. Like some of the others, it is probably not yet fully developed.

P. × MURIEL (Chamberlainianum × tonsum) is most like an enlarged edition of the former, but is paler in colour. The dorsal sepal is greenish, and bears many small brown dots; the petals undulate, and also much dotted with brown, while the lip is suffused with light purple.

P. × DOROTHY (Victoria-Mariæ × insigne) is most like the former in habit. The dorsal sepal is green with a cream-yellow margin, an irregular purple blotch at the base, and some brown spots above; the petals undulate, and yellowish with some brown markings; the lip light reddish brown, and the staminode yellow. It is a very attractive hybrid.

P. × VERA (Spicerianum × Godefroyæ leucochilum) is an elegant little hybrid, somewhat recalling P. × Enid in general character. In shape it most resembles the pollen parent, but the dorsal sepal and petals are heavily veined and reticulated with purple, while a suffusion of the latter colour largely obscures the yellow ground colour. The staminode

and lip are paler in colour. It is very promising, and Mr. Appleton remarks that the plant is at present very small.

P. × INGENS is a remarkably vigorous hybrid, supposed to be from P. insigne × Rothschildianum. It is most like the former in general character, but the petals are broader, not horizontal, suffused with purple-brown, and spotted at the base, while the acute dorsal sepal is spotted much like P. insigne, except that the spots are somewhat confluent in lines. The plant has been noticed for a long time as very distinct, and made six strong growths before flowering.

ODONTOGLOSSUM × CORADINEI.—A curious form of Odontoglossum × Coradinei has just flowered with Mr. James O'Brien, Harrow-on-the Hill. It is rather small, and has numerous dots and small blotches on the lower part of the sepals and petals, the basal ones being quite line-like in character. Owing to this I at first thought there were traces of O. gloriosum in it, but other characters are not in agreement, and I find traces of similar markings in certain forms of O. Lindleyanum. This parent comes out very strongly in the flower, while the broader more membranaceous segments show the influence of O. crispum. The plant is very small at present.

It is rather curious that the hybrid between O. Lindleyanum and O. gloriosum has not yet been recognised. I pointed out the probability of its existence over ten years ago (*O. R.*, i., p. 277), but nothing is yet known about it. R. A. R.

ORCHIDS FROM STREATHAM.

A VERY beautiful series of Dendrobiums is sent from the collection of R. G. Thwaites, Esq., of Streatham (gr. Mr. Black). First may be mentioned a flower of the chaste D. nobile virginale, raised from seed, from self-fertilised flowers. The seedlings were mentioned at page 259 of our last volume, and it is interesting to find that they come true from seed, as has been the case with several other albinos. Dendrobium × Thwaitesiæ is represented by three quite diverse forms, from seedlings now flowering for the first time. One has buff yellow flowers with a red-maroon disc; the second is larger, and has whitish flowers, with a red-purple disc; while the third is rather small, and has light purple segments, brighter towards the apex, and the disc dark maroon in front, but broken up into radiating lines behind. A flower of D. × Wiganiæ is said to be from a plant bearing over one hundred flowers, and must have been very effective.

D. × Ellisii album is a very pretty form, having white flowers, bearing traces of a pair of small purple spots at the base of the yellow disc. D. × Cybele is represented by four very pretty forms, obtained from D. nobile elegans × D. Findlayanum, now flowering for the first time, which should develop into good things. Two good forms of D. nobile are also sent; one called Thwaites' var. has very broad segments, with a very dark blackish-maroon disc to the lip, while the other is D. n. murrhiniacum, a splendidly developed flower, having the disc bright rose-pink instead of maroon. Lastly may be mentioned a remarkable series of nine forms of a new hybrid:—

DENDROBIUM × BLACKIANUM, now flowering for the first time. It was obtained by crossing a fine D. Findlayanum with the pollen of D. × Wiganiæ. The range of variation is remarkable. There are three buff-yellow forms, with the disc of the lip reddish-maroon, and somewhat varying in size, and one paler, whitish yellow form, with only traces of a pair of small purple spots at the base of the yellow disc. Four others have pale blush lips, one of them having small purple tips to the segments, while all have a purple disc to the lip, in two cases surrounded by a narrow zone of yellow. The last is more like a large form of D. Findlayanum, with the upper halves of the sepals and petals and apex of the lip rosy purple, and the disc light reddish-maroon, surrounded by a narrow yellow zone, shading off to cream colour. Thus there are forms approaching each of the parents, and some of them are likely to develop into fine things. The flowers all bear evidence of excellent culture.

ORCHID SALE AT WILMSLOW.—A sale of duplicates from the collection of E. Ashworth, Esq., Harefield Hall, Wilmslow, took place on the premises on March 23rd and 24th, the auctioneers being Messrs. Protheroe and Morris, of Cheapside. The highest figure reached was 340 guineas, for a plant of Odontoglossum crispum var. Ashworthianum, the purchasers being Messrs. McBean, of Cooksbridge. This is said to have been the highest price which a single plant has ever fetched under the hammer. The plant consisted of one healthy bulb with a young growth just appearing. The beautiful albino Cattleya amethystoglossa Sanderæ was purchased by Mr. Duckworth for 200 guineas; but beyond these few high prices were realised. C. superba alba fetched 31 guineas. Plants of Cypripedium insigne Harefield Hall var. averaged about 11 or 12 guineas each, and some choice seedlings two to three guineas each, but good plants of many well-known kinds fetched only a few shillings. The sale was attended by buyers from London, Manchester, Liverpool, and other centres.

SCUTICARIA STEELEI.

Scuticaria Steelei is a very striking Orchid, having long, whip-like foliage, which sometimes attains a length of three to four feet, while its flowers, which are borne on short pedunces from the rhizome, are very handsome, being light yellow, strongly blotched and barred with red brown. The annexed figure of a plant which flowered in the Royal Botanic Garden, Glasnevin, shows its general character, and is reproduced from a photograph taken by Mr. Leo Farmar. The species has been known since 1837, when it flowered in the collection of John Moss, Esq.,

Fig. 21. Scuticaria Steelei.

of Otterspool, near Liverpool, and was figured in the *Botanical Magazine* (t. 3573), under the name of Maxillaria Steelei. It had been introduced from Demerara in the previous year by Mr. Matthew Steele, after whom it was named. It afterwards became the type of the genus Scuticaria. Messrs. Schomburgk afterwards found it in their exploration of British Guiana, growing on trunks of trees on the banks of the Rivers Essequibo and Demerara, and flowering in June and July. Although large quantities

have been introduced, it cannot be called common in cultivation, partly, perhaps, because it is not a very accommodating plant. It should be attached to a block of wood, with a little fibrous peat and living sphagnum about its roots, and be placed in the warmest house, in the lightest possible position, and syringed freely during the growing season. Very little is known of the conditions under which it grows in a wild state.

LEAF-MOULD FOR ORCHIDS.

MUCH has been already written upon this subject, and those who have had experience of the material under proper conditions are inclined to consider the question as now definitely settled, and settled in its favour. Still there seem to be many who have not met with success in using it. You, Mr. Editor, have asked for further notes from cultivators, and I send you my experiences, in the hope that they may be a guide to those who are meeting with difficulties in its use, or that it may induce a further trial from those who, most likely from non-observance of essential conditions, have returned to the old mixture of peat and moss.

When leaf-mould was first suggested to me, I was told that the Belgian mould was the only one that could be used with any prospect of success, and my first trials were made with this. At the same time, having a plentiful supply of oak leaves, I began to prepare a material of my own. When this was ready for use, I sent samples of it and of the Belgian to an analyst, who gave me the following results:—

	BELGIAN.	ENGLISH.
Water (lost at 212F.)	45·73	50·72
*Vegetable matter	20·60	33·78
Lime	·34	·24
Phosphoric acid	·09	·08
Potash	·24	·13
Alkaline salts, magnesia, etc. (Oxides of iron and alumina.) ...	1·43	1·06
Sand	31·57	13·99
	100·—	100·—
*Containing nitrogen	·58	·68

The Analyst added that he did not see any reason why plants that would grow in the one soil should not equally flourish in the other, and his opinion has been fully justified.

From that time I used my own material, and no other, but I mix a greater proportion of sand with it than is mentioned in the English analysis. We are now (March) using last autumn's oak leaves, and our

method of preparation is to store them together in a heap, placing them on some substance which will prevent worms reaching them: a cement floor is the best, but boards will do. This heap is left in the open for about three to four months, being occasionally turned over in order to prevent fermentation, and then it is removed into a potting shed. When dry it is cut up by machine—we have adapted an old lawn mower for this purpose—the result being a material consisting of small dry pieces of leaves, of about the size of a threepenny piece. With the addition of some fine sand, it is then ready for use.

I cannot insist too strongly that the method of preparing the material should ensure absence of worms; their presence in the soil is fatal to good culture.

Consisting as it does of half decayed leaves, the material is of a very springy nature; therefore in potting the plants it must be pressed firmly into the pots; otherwise, as it decays, it subsides too much, to the detriment of the plants' welfare. A thick covering of moss is most essential; for pots I use it about two inches in depth, and care should be taken that the moss is put in fairly tight; for pans it need not be so deep.

As a rule, plants should be repotted every two years; still, I have had some plants doing well which have been left longer. One which I have at present must have been five years in the same soil. It is a fine specimen of Lælio-cattleya × elegans. When I purchased it, it had evidently been potted about two years, but it was not ready for the operation, and afterwards the bulb made such a good growth that I left it alone, and it has gone on ever since exceedingly well; of course the watering had to be very carefully attended to. The bulb made in 1902 measured 11 inches, or including the leaf 1ft. 11in. The 1903 bulb measures 18 inches, or including the leaf, 2ft. 6½in. But the plant is now over the pot, and must be repotted this year. This, however, is a very exceptional case.

Now as to the treatment of the plant after potting: let me say, with the greatest emphasis possible, that the cardinal point in leaf-mould culture is the watering. In my opinion, for those who can grow Orchids at all, there is practically no other question to be considered. I am not speaking of those amateurs or those gardeners who kill their Orchids, no matter what potting material is used, but of those who can grow these plants: the whole question of leaf-mould versus peat is—care in watering.

The plants in the Intermediate house are gone over once a week. Those that look as if they wanted water, get it from a can with a thin spout, and half of this spout is blocked up with wood. Consequently, only a small trickle leaves the can, and when the thick pad of moss is moistened, we go on to the next. The moss is the indicator, and make sure no plant is watered until the moss wants it; far preferable is it to starve the plant.

Some of my Cattleya Trianae have gone six weeks without any. I have almost come to the conclusion that the soil does not require any watering at all, or only at very infrequent intervals; if the moss is kept damp, enough moisture reaches the leaf-mould. One may really say that the object to be aimed at is not to keep the material moist, but rather to keep it from becoming dry.

Occasionally we come across a plant that has slightly shrivelled; and this is more often due to the presence of worms in the soil than to any other cause; their action destroys the properties of the leaves, reducing them to a sticky mass, and the roots decay rapidly. The best remedy is to repot the plant, and with leaf-mould this is a much easier operation than with peat.

Cattleyas, Lælias, Oncidiums, Dendrobiums, and in fact nearly every kind grown in the Intermediate and the East Indian House, with the exception of Cypripediums, have immensely benefited by the change from peat to leaf-mould.

We have always done Cattleya Percivaliana well. It is sometimes considered a difficult subject; but unless I had experienced it, I would never have believed it possible to effect such a change. When established in leaf mould, growths seem to start from every dormant eye; in a good, many cases, the foremost bulbs make a new bulb on each side, and one two, or even three growths start from back bulbs, according to the size of the plants. The flowering growths generally produce two and very often three flowers apiece.

I can hardly recall any kinds that do not benefit by the change in the two houses referred to. Plants with creeping rhizomes such as *Zygopetalum Gautieri*, do well on a Tree-fern stem, and these of course are not suitable for pot culture. Oncidium crispum, even weak pieces, does well and puts on large bulbs. Small spindly plants of Lælia tenebrosa make great improvement, and some small weakly plants of Dendrobium Phalænopsis have put on new bulbs twice and three times the size of the old ones. But at the same time I would like to caution growers against attempting to establish in leaf-mould a sickly plant with few or no good roots. I much prefer to strengthen its constitution by a season in peat and moss, and when furnished with a good stock of roots, transfer them to the new material. For Cypripediums in my experience it is not suitable: mine have never done well with it, and they are now all back in peat and some in yellow loam.

Some growers say that flowers from plants grown in leaf-mould are not strong, and that they do not last so long when cut as those from plants potted in peat and moss. My experience is that there is no perceptible difference, except that from the stronger bulb one gets more flowers.

As regards Odontoglossum crispum, and the other inhabitants of the Cool house, I cannot speak with much knowledge. One thing I have resolved, viz., never again will I endeavour to establish imported crispum in the new material. I lost nearly 40 per cent. of an importation by trying it, and we were very careful with the watering, but perhaps not careful enough. As I have said above, I do not like it for weak plants or plants without roots, though I may say here that I have used it for imported Cattleya labiata, and never lost one. The Cool house Oncidiums all do well in it. Odontoglossum Pescatorei seems to revel in it; hung up near the light, it makes very fine bulbs, and throws large branched spikes; one plant recently flowering for the first time, had about one hundred flowers on one spike.

Otherwise my only trial of it with O. crispum was with a lot of established plants; but we made the mistake of surfacing the material with a layer of peat and moss. The result was interesting though not satisfactory. On turning out the plants, the roots in the majority of cases were strong and healthy so long as they kept to the peat and moss; but died as soon as they touched the leaf-mould. The latter was a caked sodden mass; why? Because the plants were watered when the peat wanted it, and it wanted it long before the leaf-mould did. Here and there we found a different condition of affairs. Some plants had escaped this over-watering, whether by chance or because of better drainage I cannot say, and their roots were strong, healthy, and permeating the mould in every direction. No better proof was needed that it was only the watering that did the mischief. I have not tried it further for O. crispum. Those that survived of the imported plants referred to previously, are doing excellently, but I really cannot conscientiously say that they are doing better than the rest of my crispums that are in peat. The latter do so well that I hesitate to make the change; still I mean to go on making fresh trials, and it is quite possible I may yet have all my established crispums in the new material.

I may say that I do not consider the syringe is a good instrument to use; too much water gets into the pots. Our plants get their refreshment frequently during the day in suitable weather, from a very fine automatic sprayer. The outside weather conditions are the sole guide as to it use.

In conclusion, let me say that I am absolutely convinced that leaf-mould, with proper care, gives far and away better results than peat for the plants mentioned in the preceding remarks. The reservation I have made in these two words "proper care," means everything. I do not think written words will teach anyone; nothing but actual experience is of much use. Therefore to any amateurs who are thinking of trying it, let me advise them only to pot up a few plants to begin with, and as the experience is gained let them extend their operations to their more valuable

specimens. To my excellent gardener, Mr. W. H. Young, I am indebted for the care and attention he has devoted to this new material. I am sure he feels that the results he has obtained in the increased vigour of the plants under his charge have amply repaid all the trouble he has taken over them. But this proper care is so very essential, and is after all so seldom given by the average gardener, that I am not surprised at the adverse opinion so often expressed in the REVIEW. Careless culture with leaf-mould will kill a plant where the same carelessness with peat would only stunt its growth.

To those who cannot rely on this care, I should say a mixture of peat and leaf-mould would mean less risk to the plants. I cannot say what proportions of each material should be used, but I would say, increase the proportion of leaf-mould as you find you can trust your gardener. Leaf-mould does give better results than peat, therefore get to the unmixed material as soon as you can.

Reverting for a moment to the analysis previously mentioned, it may be added that the analyst—John Hughes, Esq., F.I.C.—in comparing the two samples of leaf-mould, remarked: —" The Belgian sample contains nearly one-third of its weight of sand, and I am surprised to learn that it is regarded so favourably. Probably its value may be due to the improvement effected in the mechanical condition of the soil with which it may be mixed.

I find by calculation that one ton of each mould would only contain :—

	ENGLISH.	BELGIAN.
Phosphoric Acid - -	$1\frac{8}{10}$ lbs.	- 2 lbs.
Potash - - -	3 ,,	- 5 ,,
Lime - - -	$5\frac{1}{3}$,,	- $7\frac{1}{2}$,,
Nitrogen - - -	18 ,,	- 13 ,,

The Belgian is certainly drier, and contains slightly more Phosphoric Acid, Potash and Lime, but less Nitrogen in the form of decaying vegetable matter. For the purposes of potting I should certainly think that the English quality should be fully as useful as the Belgian."

J. WILSON POTTER.

" Elmwood," Croydon.

EPIPHYTIC ORCHIDS AND THEIR SUPPORT.

IT is known that most Orchids, like many other plants, harbour in their roots endophytic Fungi. These Fungi act the part of intermediaries between the Orchids, and the medium on which they grow, and it is interesting to study their mutual relations, which are far from unimportant. In fact, we know that epiphytic Orchids generally confine themselves to

some particular habitat. In South America, many Orchids affect the trunks of tree-ferns or of Cresceutia Cujete; others are found on Pandanus, &c.

M. Jacob de Cordemoy has made a study of the relations existing between the Vanilla plant and its support, and he has communicated to the Academy of Sciences at Paris, the result of his observations. He concludes that there exists between the lateral and ærial roots of the Vanilla and the support to which they cling, a mycorhiza, or a combination of the roots with an endophytic fungus. The endophyte throws out a ramified mycelium, which forms a strict connection between the lateral roots and its living support. This morphological connection probably corresponds to some physiological connection, the Fungus being able to find in the tissues of the living support certain nutritive principles useful to the growth of the Orchid. In this case there would be a real symbiotic connection existing between the mycorhiza and the roots of the Orchid.—*Revue Horticole.*

THE HYBRIDIST.

Lælio-cattleya × Glycera.—A year ago we received from the collection of Reginald Young, Esq., Sefton Park, Liverpool, the inflorescence of a very pretty little hybrid between Cattleya Trianæ and Lælia rupestris, but owing to pressure it failed to get recorded. Mr. Young has now again sent a three-flowered inflorescence, showing it to be a very charming little plant. Lælia rupestris is a rare Brazilian species closely resembling L. flava in almost every respect but that of colour, but its flowers are deep purple. The hybrid most resembles this parent, the inflorescence sent being a foot long, and the flowers having an expanse of 3½ inches. The sepals and petals are widely spreading, lanceolate oblong in shape, and deep lilac-purple in colour; while the front of the lobe is much deeper purple, very crispo-undulate, and but little expanded—as in hybrids of L. cinnabarina—and the disc and side-lobes are lilac veined with purple. The pollinia are those of Lælio-cattleya, four large and four small, and the influence of the Cattleya parent is also seen in the increased size and modified details, but in floral characters it most resembles the Lælia parent. It is a charming little plant. An inflorescence of the same hybrid was exhibited at the last meeting of the R.H.S., from the collection of the Hon. Walter Rothschild, M.P.

Dendrobium × Myra.—A very pretty hybrid from the collection of Sir Trevor Lawrence, Bart., derived from Dendrobium Linawianum ♀ and D. signatum ♂, which was exhibited at the last meeting of the R.H.S. The flower is bright buff-yellow, with a claret-purple disc, and a deep-

yellow zone surrounding the disc. There is a considerable general resemblance to D. × Wiganiæ xanthochilum, and D. × Melpomene, two other hybrids of D. signatum, of which flowers are also sent for comparison, but the present one has a smaller disc, and some other differences. The two other hybrids mentioned were derived from D. nobile and D. × Ainsworthii respectively, and as the latter is half nobile, which species is nearly allied to the Chinese D. Linawianum, the general resemblance of the three hybrids is easily explained. It is likely to develop into a handsome thing when the plant becomes strong.

ORCHIDS FROM PENARTH.

SEVERAL interesting and beautiful Orchids are sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. E. W. Davy. First may be mentioned part of an inflorescence of Oncidium tigrinum, grown in leaf-compost, as described at page 90; and a most beautiful thing it is, with the flowers beautifully developed, and the lips an inch and a half broad. There is no trace of want of substance in the flowers, and we find that they last well in water. It is, in fact, a fine thing for cutting. Flowers of Oncidium olivaceum also sent are said to have been out for eleven weeks. O. Cebolleta is a very pretty species said to be flowering very freely. O. serratum Mr. Davy thinks is one of the prettiest of Oncidiums, and its much crisped segments are certainly very striking. A fine flower of Angræcum superbum is taken from an eight-flowered raceme, which has been out for ten weeks, and Paphiopedilum × Harrisianum has been expanded since the end of November. A very pretty form of Cattleya Trianæ has a bright crimson front lobe to the lip, and the disc bright yellow, with the rest of the flower white. It is from a small plant, and is likely to develop into a fine thing. Epidendrum is represented by part of an inflorescence of E. Stamfordianum and the bright yellow E. xanthinum, and Vanda by the handsome V. tricolor var. planilabris. The Odontoglossums form a charming little group, and include O. crispum and O. c. guttatum, the latter very prettily spotted with red-brown on all the segments; a good inflorescence of O. constrictum, the charming O. nævium, a good O. × Coradinei, O. cordatum, and three forms of O. Rossii. The latter Mr. Davy thinks suffers from lack of sunshine during the winter more than many others. Lastly may be mentioned a spike of seed-pods—apparently of some Polystachya. It came home in a case of various Orchids, including Angræcums, from Ashantee, W. Africa, which are said to have arrived in splendid condition, and their flowering is looked forward to with great interest.

DIACRIUM BICORNUTUM.

The annexed illustration represents a very fine specimen of Diacrium bicornutum which flowered at Kew some time ago, and was photographed by Mr. Griessen, who was then in charge of the Orchid houses. It is certainly a well-grown example, producing a dozen spikes of flower. The plant has sometimes the character of being difficult to keep, but this chiefly

Fig. 22. Diacrium bicornutum.

arises from growing it under unsuitable conditions. The habitat of the species indicates a high temperature and a moist atmosphere, and under these conditions it is very successfully grown at Kew. Teak baskets seem to be the most convenient receptacles, and a mixture of fibrous peat and

sphagnum moss forms a suitable compost. The climatal conditions, however, seem the most important, and Warm house treatment is essential to success. The species has been known for about seventy years, having been originally described and figured in 1834, under the name of Epidendrum bicornutum (*Hook. Bot. Mag.*, t. 3332), from a plant which flowered in the collection of Earl Fitzwilliam, at Wentworth, in April of that year. It had been introduced by Messrs. Shepherd, of Liverpool, from Trinidad, a locality from whence it has since been frequently imported, and where it is said to grow on rocks on small islets so close to the sea that they must often be bathed with salt spray. Afterwards it was found by Sir Robert Schomburgk, in Demerara, growing on the trunks of trees by the River Berbice. It has also been found on the Essequebo and Corentyne Rivers, as well as on the Kwaimatta Savannah, in Guiana, and on the Island of Tobago. It is one of a few species having hollow pseudobulbs, which are tenanted by small ants, which find ingress through a small cleft at the base, that invariably occurs in the new growths. It is a very beautiful species when well grown.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Drill Hall, Buckingham Gate, Westminster, on March 8th, when there was a large and interesting display of Orchids.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), staged a magnificent group, for which a Silver-gilt Flora Medal was awarded. It contained fine forms of Cattleya Trianæ, Cypripedium × Deedmanianum, C. × Lathamianum with eleven flowers, C. × macrochilum, Calanthe Regnieri, C. × Baron Schröder pallida, Odontoglossum × Adrianæ memoria Victoriæ Reginæ, O. crispum Mrs. H. G. Moon, Lælia × vitellina, Epidendrum × dellense, Masdevallias, Sophronitis, and others.

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), gained a Silver Flora Medal for a fine group, containing forms of Phaius × Norman, the purple Masdevallia cucullata, M. rosea, good varieties of Cattleya Trianæ Vanda Cathcartii, Cymbidium × Lowio-eburneum, Odontoglossum Edwardi, forms of O. crispum, Brassavola nodosa, Dendrobium × Ellisii, and the rare Acineta × Humboldtii, which received an Award of Merit.

R. G. Thwaites, Esq., Christchurch Road, Streatham (gr. Mr. Black), received a Silver Flora Medal for an excellent group, including several varieties of Dendrobium × Thwaitesiæ, D. Wiganiæ, D. nobile murrhiniacum, D. n. virginale, raised true from seed, D. × Blackianum (Findlayanum × Wiganiæ), a fine hybrid described on page 104, D × Cybele elegans, Odontoglossum crispum, Lælio-cattleya × warnhamensis, &c.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), obtained a Silver Banksian Medal for a small group, including Odontoglossum × Adrianæ Babette, a fine O. × crispo-Harryanum purpureum, several good forms of O. × waltonense, and two dark O. × Vuylstekei.

Mrs. Haywood, Woodhatch, Reigate (gr. Mr. Salter), received an Award of Merit for Dendrobium × melanodiscus gloriosum, a large and handsome form, having the segments tipped with rosy purple, and an orange band surrounding the maroon purple disc.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Chapman), exhibited the curious Dendrobium Mac-jap (MacCarthiæ × japonicum), having white flowers tinged with pink, and D. × nobile-Wiganiæ (nobile burfordiense × Wiganiæ), having white flowers with a sulphur yellow disc to the lip, and some purple lines on the lateral sepals, as in the seed parent. An Award of Merit was given to Odontoglossum crispum Kinlesideanum, a peculiar form having the petals tinged with rose and lined with cinnamon-brown, somewhat after the fashion of O. c. Lady Jane It is figured in *Reichenbachia* (ser. 1, vol. i., p. 103, t. 45).

J. W. Potter, Esq., Elmwood, Croydon (gr. Mr. W. Young), showed Odontoglossum crispum Rossendale, a fine white form tinged with purple, and having large red-brown blotches on the lower halves of the segments, which deservedly received an Award of Merit.

W. Cobb, Esq., Tunbridge Wells (gr. Mr. Howes), showed a fine specimen of Leptotes bicolor, which gained a Cultural Commendation.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), received a Cultural Commendation for a well-grown plant of Dendrobium × Luna.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), exhibited Dendrobium aggregatum majus, well-grown and heavily flowered, to which a Cultural Commendation was awarded. He also showed the handsome Odontoglossum crispum S. J. Pitt, and O. × Adrianæ Cobbianum.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), showed Odontoglossum crispum de Barri, a large form tinged with purple, and bearing a cluster of reddish-purple blotches on each segment, and O. × waltonense rosefieldiense (crispum × polyxanthum) having light yellow flowers bearing a brown blotch on each of the sepals and the lip.

Captain G. L. Holford, Westonbirt (gr. Mr. Alexander), exhibited Dendrobium × Clio Burford variety, Ada aurantiaca Westonbirt variety, the handsome Cypripedium × Scipio (Sallieri Hyeanum × Mrs. Tautz), and the finely spotted Odontoglossum × Adrianæ Lady Crawfurd.

F. A. Rehder, Esq., Gipsy Hill (gr. Mr. Norris), exhibited Cypripedium villosum excelsum.

The Rt. Hon. Lord Rothschild, Tring Park (gr. Mr. Hill), sent a branched spike of Phalænopsis × intermedia Brymeriana.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed a fine Lælia Jongheana, and Cypripedium × Jerninghamiæ.

Messrs. Charlesworth & Co., Heaton, Bradford, were awarded a Silver Flora Medal for an extremely good group, containing fine plants of Lælio-cattleya × Charlesworthii, L.-c. × Myra, Lælia × Briseis, Lælia × Digbyano-purpurata, Cattleya × Enid, Oncidium concolor, Odontoglossum prænitens, Cypripedium × Cravenianum (× Hera Lucienianum × Spicerianum magnificum), and some varieties of Lycaste Skinneri, including Fascinator and Exquisite. The only First-class Certificate of the meeting went to Lælio-cattleya × Haroldiana magnifica (L. tenebrosa × C. × Hardyana), a large and handsome form.

Messrs. J. Cypher and Sons, Cheltenham, gained a Silver Flora Medal for an excellent group, chiefly Dendrobiums, including D. × Rubens, varieties of D. × Ainsworthii, D. × Virgil, D. × Apollo album, D. nobile nobilius, D. n. Sanderianum, D. n. Cypheri, D. n. giganteum Berkeley's variety, and some good plants of D. barbatulum, together with Cypripedium villosum giganteum, C. × Chas. Richman, C. × Maudiæ, C. × Ashburtonæ giganteum, C. × Thompsoni, and others.

Messrs. Sander and Sons, St. Albans, staged a group, which gained a Silver Flora Medal. It contained Cymbidium × Lowio-eburneum, C. grandiflorum, C. × Ballianum, the handsome Odontoglossum crispum Mariæ, a dark form of O. triumphans, Phaius tuberculosus, Cypripedium × aureum varieties, D. nobile nobilius, Ada aurantiaca maculata, Oncidium superbiens, Houlletia Brocklehurstiana, etc.

Messrs. J. Veitch & Sons, Chelsea, showed Lælio-cattleya × Myra and Cypripedium × Harri-Leanum, the latter a dark form.

Messrs. H. Low & Co., Enfield, staged an effective group, in which were D. Brymerianum, D. Boxallii, D. × Roeblingianum, D. crassinode, D. × dulce Oakwood var., Oncidium barbatum, O. obryzatum, Angræcum citratum, Cyripedium × Helen II., Cattleya amethystoglossa, some good forms of C. Trianæ, and other plants.

Messrs. Wm. Bull and Sons, Chelsea, showed two excellent forms of Lælio-cattleya × Myra, one with bright yellow and the other with nearly white sepals and petals.

At the meeting held on March 22nd there was again a very fine display of Orchids, and the awards consisted of two Gold and four other medals, two first-class Certificates, five Awards of Merit, and one Botanical Certificate.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Chapman), staged a magnificent group, to which a Gold Medal was awarded. It contained a beautiful series of Odontoglossums, together with

a good Cattleya Schrœderæ, and examples of Dendrobium × Bryan and D. × Sibyl. The more noteworthy Odontoglossums were O. × ardentissimum Cooksonæ, a very handsome white flower, heavily blotched with bright purple, which gained a First-class Certificate, O. crispum Sibyl, a fine white form, tinged with purple behind, and having a cluster of red purple spots on each segment (Award of Merit), O. c. Luciani in fine condition, the remarkable O. c. Kinlesideanum, in which the purple markings are confined to the petals, the heavily spotted O. c. tessellatum, O. c. Mariæ, a beautiful example of O. × Rolfeæ, O. × loochristiense Cooksonæ, O. luteopurpureum Vuylstekei, O. × Wilckeanum, the handsome O. × merificum, O. × bellatulum, &c.

W. A. Bilney, Esq., Fir Grange, Weybridge (gr. Mr. Whitlock), staged a splendid group of Dendrobiums, extending throughout the length of the Hall, which also gained a Gold Medal. It contained a fine series of D. nobile and D. × Ainsworthii varieties, together with D. Brymerianum, D. fimbriatum, D. thyrsiflorum, D. chrysotoxum, some fine D. Wardianum, D. crassinode, D. Findlayanum, D. × Cybele nobilius, D. × Luna, D. × Pirene, D. aureum, D. nobile burfordiense, D. n. virginale, some fine specimens of D. n. nobilius, D. × Nancy (aureum × Curtisii), a pretty hybrid of intermediate character, Cœlogyne cristata alba, &c.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), exhibited the fine Odontoglossum triumphans Theodora, and O. × waltonense rosefieldiense (crispum × polyxanthum), the latter a light yellow form with a light brown blotch on each sepal, as well as on the lip, which received an Award of Merit.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), exhibited a good Odontoglossum × Wilckeanum, and O. crispum Prebendary Bevan, the latter, a good white form heavily blotched with claret purple, receiving an Award of Merit.

H. J. Bischoffscheim, Esq., Warren House, Stanmore (gr. Mr. Ellis), sent Odontoglossum luteopurpureum, a spotted O. crispum, and what appeared to be a form of O. × Andersonianum.

R. Briggs-Bury, Esq., Bank House, Accrington (gr. Mr. Wilkinson), sent Odontoglossum crispum Empress of India, and a good form of O. × loochristiense.

H. Druce, Esq., St. John's Wood (gr. Mr. Walker), showed a good form of Cattleya Lueddemanniana, Miltonia flavescens, and Lycaste Skinneri.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a very pretty little group, consisting of the fine Masdevallia × Bocking Hybrid, M. × igneo-Estradæ in both buff and purple forms, M. caudata xanthocorys, M. leontoglossa, Dendrobium × Myra (Linawianum ×

signatum), a pretty yellow flower with a claret-coloured disc, and D. × Clio giganteum, a very large and handsome form, one of the pseudobulbs being four feet long.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent three distinct forms of Dendrobium × Ellisii, a hybrid between D. nobile and D. Hildebrandii, and a Cypripedium said to to have been obtained from C. × Ledouxiæ × Leeanum superbum, and most resembling the latter.

The Hon. Walter Rothschild, M.P., Tring Park (gr. Mr. Hill), sent the inflorescence of a pretty hybrid between Lælia rupestris and Cattleya Trianæ.

R. G. Thwaites, Esq., Streatham (gr. Mr. Black), sent a good example of Dendrobium × Thwaitesiæ, D. × Wiganiæ xanthochilum, D. × Pitcherianum, D. × Venus, D. × Blackianum, and D. nobile Thwaites' var., a very fine form.

H. Whateley, Esq., Kenilworth, sent good forms of Odontoglossum triumphans, and O. × loochristiense.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), sent a beautiful inflorescence of the chaste Phalænopsis Schilleriana vestalis, Odontoglossum crispum marmoratum, and O. × Denisonæ, a white form having narrow segments, and one or two blotches on the sepals, thus much resembling the original form.

Messrs. Sander & Sons, St. Albans, staged a very fine group, which gained a Silver-gilt Flora Medal. The more noteworthy plants observed were Lælio-cattleya × luminosa The Mikado, a noble form, having rich reddish buff sepals and petals, and a glowing claret-purple lip (First-class Certificate), L.-c. × Mme. M. Fournier var. W. H. Young (C. labiata × L. Digbyana), a large and beautiful variety (Award of Merit), L.-c. × Fanyauana, some good Odontoglossum × Adrianæ, the handsome O. × merificum, O. × elegans, O. × crispo-Harryanum, O. × Wilckeanum Emperor, a fine clump of Oncidium concolor, O. Cavendishianum, a well-flowered Dendrobium Devonianum, D. nobile, Trichopilia suavis, Phaius Norman, Miltonia × Bleuana nobilor, Cattleya × calummata, Epidendrum atropurpureum album, E. densiflorum, Lælia cinnabarina, Masdevallia Mooreana, the charming Cypripedium × Maudiæ, C. × Hitchinsiæ, &c., also a plant called Bulbophyllum miniatum, having remarkable white appendages to the lip, and recalling the Indian B. tremulum. It is said to be a native of the Congo.

Messrs. Charlesworth and Co., Heaton, Bradford, staged a pretty little group, which gained a Silver Banksian Medal. It contained the handsome Lælio-cattleya × Wellsiana, three forms of L.-c. × Myra, a fine hybrid derived from Cattleya Schrœderæ and Brassavola Digbyana, Cattleya × Empress Frederick, C. × Enid, Lælia × Briseis, Odontoglossum crispum

Victoria-Regina, the orange O. luteopurpureum Vuylstekei, O. × Harryano-triumphans, &c.

Messrs. James Veitch and Sons, Chelsea, also gained a Silver Banksian Medal for a good group, containing the handsome Lælio-cattleya × warnhamensis, L.-c. × highburiensis, L.-c. × Myra, L.-c. × Antimachus, Lælia × Latona, L. × Mrs. M. Gratrix, L. × Digbyano-purpurata, Epidendrum × Clarissa, E. elegantulum, Dendrobium × Æneas, D. × Socius, and others.

Messrs. Hugh Low and Co., Bush Hill Park, also received a Silver Banksian Medal for an attractive group, containing some good Dendrobium Wardianum and D. crassinode, D. Brymerianum, D. × Sibyl, D. nobile Ballianum and murrhiniacum, Miltonia Roezlii and its variety alba, Cattleya Schrœderæ and Trianæ, Cymbidium eburneum, C. × eburneo-Lowianum, Cypripidium × exul, &c.

Messrs. A. A. McBean, Cooksbridge, gained an Award of Merit for Odontoglossum Pescatorei Kathleen, a very fine form having a few dark purple blotches on the segments.

Messrs. T. S. Ware and Son, Feltham, received a Botanical Certificate for the remarkable Cypripedium japonicum, a species very rarely seen in cultivation.

M. Ch. Vuylsteke, Loochristi, Ghent, sent a good Odontoglossum Harryano-crispum, and a handsomely marked form of O. × merificum.

ORCHIDS IN SEASON.

A MAGNIFICENT inflorescence of Cymbidium × eburneo-Lowianum, bearing eleven flowers, is sent from the collection of G. M. Whitin, Esq., Whitinsville, Mass., U.S.A., by Mr. G. McWilliam, who states that it is a seedling raised by him, and that it has but one flowering bulb, which carries two spikes, the second having ten buds. All the flowers are finely developed, the basal one having an expanse of 5 inches, and the scape measures 38 inches long. It is evidently a fine thing for cutting, as the flowers arrived in good condition, perhaps the segments of a deeper yellow than when sent off, but perfectly fresh. The front of the lip is of a brilliant crimson-maroon shade, with a narrow yellow margin, while behind it shades off to light yellow. It is a very fine form of this handsome hybrid.

A pretty form of Lycaste Skinneri having an apricot-tinted lip is sent from the collection of J. Bradshaw, Esq., The Grange, Southgate. It ems different from L. S. armeniaca, but is not yet properly developed.

Several beautiful Dendrobiums are sent from the collection of W. A. Bilney, Esq., Fir Grange, Weybridge, by Mr. Whitlock. Among orms of D. nobile may be mentioned the varieties virginale, Ballianum, murrhini-

acum, nobilius, giganteum, and Cooksonianum. D. × Ainsworthii is also represented by several beautiful varieties, varying from white to rosy purple, with the usual dark disc. Other good things are D. Wardianum, a very fine D. ochreatum, the richly-coloured D. × Socius, D. × Cybele, D. × melanodiscus, D. × Juno, and D. × Pirene, the whole forming a very charming little group. Lastly may be mentioned a new hybrid :—

DENDROBIUM × NANCY, derived from D. aureum × Curtisii, and having nearly white segments, with a large somewhat feathered purple disc to the lip. It has rather complex parentage, for D. × Curtisii itself was derived from D. aureum × Cassiope, and D. × Cassiope from D. moniliforme × nobile.

Several interesting Orchids are sent from the collection of J. E. Vanner, Esq., Camden Wood, Chislehurst, by Mr. Robbins. Odontoglossum × mulus Bockett's var. is a very fine form of the hybrid between O. luteopurpureum and O. gloriosum. A form of O. × Denisonæ, of the Wilckeanum type, is remarkable for having the inner halves of the lateral sepals enlarge and fimbriated, like the margin of the lip, and Mr. Robbins states that every flower on the spike comes the same year by year. A pretty spotted O. crispum has the markings regularly distributed over the segments, and there is a strong suspicion that it may not be a pure crispum.

Six seedlings, from the same capsule, of what we take to be Paphiopedilum × Menelik (Calypso × Boxallii) are also sent, and all of them show a great preponderance of the Boxalli character. The history has already been given (vol. x., p. 124; xi., p. 92). Lastly may be mentioned :—

PAPHIOPEDILUM × ROBBINSII (P. × Godseffianum (Jupiter) ♀ × Calypso ♂), sent, together with a flower of each of its parents. It is a pretty novelty, most like the former, but the segments rather shorter, the apex of the petals broader, and more shining brown, while the base of the latter and of the dorsal sepal is closely spotted with brown, these characters being derived from the pollen parent. It shows its origin very clearly.

A flower of the handsome Odontoglossum × ardentissimum Cooksonæ from the collection of N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne, to which a First-class Certificate was given by the R.H.S. on March 22nd. is sent by Mr. Chapman. It is remarkable for the very copious rich purple blotching.

A very richly coloured form of Paphiopedilum × Chapmanii is sen from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. Mr. Rogers remarks that it was obtained from a cross between P. Curtisii and P. bellatulum album, and he is at a loss to understand why there is no evidence of the albino parentage. Judging from what is now known of such cases, we think that the crossing of albinos and coloured forms together should be avoided.

CALENDAR OF OPERATIONS FOR APRIL.

By John Mackay, The Gardens, Highbury, Birmingham.

Allow a rise of two or three degrees from the figures given last month in all departments. The weather is sometimes very changeable and trying this month, which necessitates watchfulness and consideration in the matter of ventilation, so that the plants may not receive a sudden check, caused by too much cold air blowing directly upon them; or, on the other hand, by insufficient air, shading or moisture. Shading from bright sunshine must now be generally adopted for all Orchids, except those in the Mexican house. Damping down should be done twice or more daily, in all departments. It will be well here to repeat the advice concerning the great benefit of shading Orchids during early spring. It is well to remember that the plants, when emerging from the dull weather of winter, are rendered somewhat soft or sappy, and unable, therefore, to withstand sudden or long spells of hot, bright sunshine direct upon them. Many Orchids are thus damaged, and the greater part of the beautiful growing weather of the summer is taken up in restoring to them that which they lost in the course of a few hours neglect by omitting to shade. Therefore, attend well to the shading and damping down in early spring, and gradually inure your plants to the bright weather.

The beautiful sunshine we have had lately has had a most stimulating effect upon all Orchids. The foliage, which had become perhaps limp and flaccid, is fast regaining its stiffness. New roots are pushing forth together with new growths, and this is a most welcome sign. So fast will be the growth at this season, that it will be sharp work where large quantities of Orchids are grown to keep pace with the times, so far as repotting is concerned. Nearly everything will seem to claim attention at once, making the present a very busy and anxious time, as Orchids cannot be repotted and cleaned so quickly as most other plants. The work, however must be done properly. Whatever plants are repotted, let them be done carefully and well, while those which can reasonably be expected to go through the season successfully without it should be left undisturbed, receiving only a little new material placed lightly on the surface.

The inmates of the East Indian house are now among those requiring attention in the way of top-dressing or repotting. Owing to the increased warmth from the sun and moisture in the atmosphere they are starting to make new roots in profusion. We will commence first with the Aërides. Most of the species are already showing signs of renewed activity, by producing new leaves and fresh roots: which reminds us that potting must be attended to. They are not the easiest orchids to handle for repotting, even under favourable conditions, the roots are very brittle, and it is a

difficult matter to avoid breaking them, when endeavouring to get them inside the pot. The difficulty is greatly minimised by commencing to repot them, before they advance the new roots far. It is not always necessary to repot annually, but it is necessary to have the potting compost as sweet as possible. The long season of rest which this class of plant requires, when water is practically withheld for months, causes the surface moss sometimes to decay. This is easily replaced, and it is therefore undesirable to pot any plant unless the material is unsuitable or the plant has outgrown its receptacle. In repotting it will be found that many roots have become attached to the sides of the pots. These may be detached by the aid of a knife in many cases, and sometimes the pot may have to be broken carefully, and the roots with the broken pot attached, placed inside the new receptacle. Such tall growing ones as A. Lawrenceanum, A. expansum, A. Houlletianum, A. Sanderianum and A. odoratum, do best in pots. The smaller growing ones of the A. multiflorum section, such as A. affine, A. Lobbii. A. maculosum, and others do well suspended from the roof in pans, which should be sufficiently large to hold the plant comfortably. Provide plenty of drainage, and fill in the remaining space to within one inch of the rim with broken crocks and sphagnum, over which place a layer of fresh picked heads of sphagnum moss. Water, as soon as repotting is done, thoroughly soaking the compost through. Shade from the hot sun, but withdraw the shading early enough to produce a good rise in temperature.

VANDAS.—Some of these beautiful species will now need attention. The first one we notice is V. Sanderiana, which is probably the most beautiful of the whole genus. The plants may now be re-mossed and encouraged in making new growth, by suspending the baskets in a shady part of the house. An occasional moistening of the moss and baskets will be sufficient until rooting and growing vigorously, when frequent supplies will be necessary. Vanda suavis and V. tricolor are best grown in pots, and thrive well in a shady part of the Cattleya house or some similar structure.

Having been kept on the dry side during the winter, the moss will need renewing, if repotting is necessary. The leafy portion may require to be brought nearer the pot, and this can be done by cutting away a portion of the stem at the base. Fill in with clean crocks, and surface over with fresh sphagnum moss. When finished give a good watering, but for some time afterwards spraying the plants overhead and between the pots will be sufficient for their needs, gradually increasing the amount at the roots as the season advances.

CATTLEYA HOUSE.—Plenty of work in this house will be required during the next few months, as the various species reach the condition necessary for repotting, &c. Cattleyas require to be repotted only when the new growth projects over the side of their receptacles or when the compost

is in a bad condition. The best time to pot is when new growth or root action takes place, and this will soon be apparent in such species as C. Trianæ, C. labiata, C. Gaskelliana and C. Percivaliana, whilst such species as C. Mossiæ, C. Warneri, C. Dowiana, C. Warscewiczii, C. Mendelii, and others may preferably be left until roots are emitted from the base of the newly developed pseudobulbs. When potting is decided on, select pots or pans large enough to accommodate two or three years growth; the old pots should be broken, and all pieces not attached to living roots taken away, also the old compost as much as possible, afterwards cutting off any rootless bulbs which are deemed unnecessary. The plant should then be fixed at the required level, using plenty of crocks for drainage, and working the same in between the roots, to within a few inches of the rim, filling in the remaining space with a compost of three parts fibrous peat to one of fresh sphagnum moss. Pot firmly and press the compost well up to the rhizome, carefully avoiding covering any part of the latter: then trim off the loose fibres, which will give the plant a neat appearance. The plants should not be watered for a time; an occasional moistening of the surface and frequently syringing the pots will suffice, until they recover from the disturbance. Plants not requiring repotting may be top-dressed, taking away as much surface material as is necessary and replacing it with new. This will be beneficial to the plants, besides giving them a fresh and neat appearance. Water the material slightly with a fine rose, and treat the same as advised for those freshly potted.

Lælia superbiens has just passed out of flower, and is commencing to grow again; it may therefore be repotted if necessary, and this should be done in the same manner as advised for Cattleyas.

Maxillaria grandiflora is a lovely old Orchid which is always admired. It is a good strong grower and a cool shady position suits it best, care being taken to avoid overwatering. Growth is now commencing and root action may soon be expected, so that any necessary attention may be given at once.

If Anguloas require repotting, let them be done before the new growths and flower buds, which appear together, get too far advanced. A compost of two parts each of fibrous loam and peat to one of moss, with an addition of some broken crocks and coarse sand, well mixed together, will be found suitable. They are Cool-house Orchids, but when newly potted it is best to encourage new growth by placing them in the Intermediate house, where they should remain until flowering, afterwards removing to the Cool house again.

Now is the best time to purchase newly-imported Orchids, as they have the summer before them, and generally get well established before the autumn arrives. Orchids imported in the autumn usually take a long time to recover, and frequently die; and even at this season some little care is

needed to first give them a start into growth. Gradually accustom them to heat light and moisture, for if this be done too rapidly the foliage may drop off, and the pseudo-bulbs decay. As soon as newly-imported plants are received, remove all decaying matter, and place them on the stage in an upright position in a somewhat cool, shady, and moist house. Gradually inure them to water, by slightly moistening the roots to commence with. and as plumpness and colour are seen to be returning, it is safe to increase the supply. New growth and new roots will soon appear, and the plants may then be potted and treated as established plants. When repotting, take the advantage of forming well-shaped plants; this can be done by separating any big mass and re-forming it again more compactly. Experience shows that it is much better to separate large clumps piece by piece, cutting away the old roots, and afterwards re-form the mass, so that the base of the pseudo-bulbs rests upon the compost, into which the roots quickly enter, and a vigorous, healthy specimen is the result.

CHYSIS AND THEIR CULTURE.

So great is the influence of fashion, even among Orchid enthusiasts, that many species of Orchids have been somewhat neglected of late years, the more popular hybrids taking their place to a great extent, but for the benefit of young beginners in Orchid culture a few remarks on the genus Chysis may be of interest, and at the same time prove instructive.

The original species, Chysis aurea, was discovered about seventy years ago in the valley of Cumancoa, in Venezuela, where plants are frequently seen suspended from the larger branches of trees by their long fibrous roots. The pseudobulbs are fleshy, pendulous, and exceedingly brittle, and the flower spikes are produced from the axils of the young growth. Blooming late in spring and early summer, they make a fine addition to an exhibition of miscellaneous Orchids, and by judicious management the flowers may be kept in beauty for a long time. C. aurea is a beautiful species; the flowers. about six on a spike, are from two to three inches in diameter, the sepals and petals yellow, sometimes marked with orange, and the lips also pale yellow, but with several white raised keels on the disc. It is rather capricious in its time of flowering, but blooms generally in April or May.

A Mexican species, also of great beauty, is C. bractescens, which was introduced into this country in 1840. The plant has the same general appearance as C. aurea, but is more robust. The wax-like flowers are three inches across, the sepals and petals ivory white, and the lips golden yellow stained with red. C. bractescens may easily be distinguished from C. aurea by its leafy bracts, which are not seen in C. aurea. Its flowering season is from March to May, and it lasts several weeks in beauty.

C. lævis, probably on account of its rarity, is seldom met with in collections. It was introduced from Mexico about the same time as the preceding species. The flowers, about the same size as the other species enumerated, are fleshy, the sepals and petals yellow stained at the tips with orange, and the lips pale orange streaked with red. Its flowering season is later than the others, generally about June.

An interval of seventeen years elapsed between the introduction of the last-named species and C. Limminghei, which was sent to M. Linden in 1857, from the province of Tabasco in Mexico. Strong healthy plants of C. Limminghei frequently produce three flower spikes from a single growth, bearing several flowers on each, but they are somewhat smaller than those of C. aurea. The sepals and petals are waxy white, blotched or stained with bright purple, the side lobes of the lips yellow streaked with crimson, and the middle lobe, which is the longest, bright purple streaked with white. The rich and clear markings of the lips appear to great advantage when contrasted with the delicate colour of the sepals and petals. The plant flowers during April and May, and lasts about three weeks.

The following are interesting and handsome hybrids raised by Mr. J. Seden at the establishment of Messrs. Veitch, of Chelsea, and all are desirable additions to the species already enumerated. C. × Chelsoni is a hybrid from C. Limminghei × C. lævis, C. × Sedenii from C. Limminghe × C. bractescens, and C. × langleyense from C. bractescens × C. Sedenii.

All the varieties have roots that penetrate rather deeply into the compost, therefore the plants should be grown in pots, to which wire suspenders may be attached, in order that they may be suspended close up to the roof glass. The pots should be drained to about a quarter of their depth with the fern rhizome that is taken out of the peat, but previous to use it is advisable to have it thoroughly dried, otherwise fungoid growths may appear, and interfere with the welfare of the roots of the plant. The best material to grow them in is a mixture of peat, leaf soil, and sphagnum moss in equal proportions. Fill up around the roots with the compost to within half an inch of the rim of the pot, and finish off with a surface of living sphagnum moss.

On commencing to push up their new growths, provided they are strong enough to flower, the plants should be but sparingly watered, but when the flower spikes are visible, and are seen getting ahead of the growth, water may be more freely given. Plants that show no flower spikes should be treated as the others are when in full growth. The proper time to repot Chysis is immediately after the plants have done flowering, or when new roots are seen pushing out from the base of the young growths. Grow the plants in a warm Intermediate or Cattleya house temperature. Towards the completion of growth the plants should be removed to a light position in the

plant stove, or East Indian house, as the extra warmth will assist them to swell up the pseudobulbs. The young growths and flower buds of Chysis are liable to the ravages of thrips, but these insects may be easily kept down by the numerous chemical preparations now in use.

W. H. W.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during April, on the 5th and 19th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold three meetings during the month, at the Coal Exchange, Manchester, on April 8th, 15th, and 29th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

The March issue of Messrs. Cogniaux & Goossens' *Dictionnaire Iconographique des Orchidées*, just received, contains figures of the following Orchids:—Cattleya × massiliensis, Cypripedium × Madioti, C. × nitens var. Hyeanum, C. × Romulus, Geodorum citrinum and var. Augusti. Lælio-cattleya × Binoti, L.-c. × Clive, L.-c. × Truffautiana var. Fournieri, Maxillaria variabilis vars. lutea and crocea, Mormodes igneum, Odontoglossum × Duvivierianum var. burfordiense, Stanhopea Wardii var. Froebeliana, and Zygopetalum maxillare var. Gautieri.

A figure of a noble specimen of Cypripedium insigne Sanderæ, bearing sixteen flowers, from the collection of C. G. Roebling, Esq., Trenton, New Jersey (gr. Mr. H. T. Clinkaberry), appears in *American Gardening* for March 12th last (p. 171). It was obtained as a small scrap in the winter of 1895, and has been grown on to its present condition—an example of excellent culture.

Hybrid Dendrobiums in the garden of Mrs. Haywood, Woodhatch Lodge, Reigate, is the subject of a figure in the *Gardeners' Chronicle* for March 26th (p. 197). It is a view along the centre of the house. Many of the pseudobulbs are remarkable for their length, and are wreathed in flowers. Mr. Salter must be congratulated on his success as a grower of these beautiful plants.

A superb specimen of Cœlogyne cristata from the collection of W. Alston Dykes, Esq., Hamilton, N.B., bearing four hundred flowers, appears in the *Journal of Horticulture* for March 24th. It was exhibited by Mr.

MacMillan at a meeting of the Gardeners' Association there, and was greatly admired for its perfect health and beauty.

"Perching Plants" was the subject of a lecture by Prof. J. B. Farmer, F.L.S., at a meeting of the Richmond Athenæum, on February 29th. The lecture was illustrated by lantern slides of numerous species of Orchids and other plants, which "perch" and grow upon other plants or upon support other than that afforded by the bosom of the earth. Professor Farmer showed by description and illustration how the roots and other parts of the organisms of these plants are designed to meet the exigencies of their peculiar methods of existence, drawing nourishment and water from the air or from the comparatively unpromising field which their rootlets occupy.

On the same date, at a meeting of the Kew Gardens Mutual Improvement Association, a lecture was given by Mr. R. A. Rolfe, entitled "Structure and Fertilisation of Orchids," when the structure of many of the principal types, and the method of fertilisation, were explained and illustrated by a series of drawings.

A paper entitled "Hybrids in Spiranthes and Habenaria," by Oakes Ames, appeared in a recent issue of *Rhodora*, of which we have received a copy. A new form is described and figured under the name of Spiranthes × intermedia (t. 47), which is regarded as a natural hybrid between S. gracilis and S. præcox, in close proximity to which it was found growing, in dry upland fields at Easton, Bristol County, Mass. It appears to be quite intermediate in character. The Habenaria is supposed to be a natural hybrid between H. psycodes and H. lacera.

In a later issue Mr. Ames describes and figures a second Spiranthes under the name of S. neglecta (t. 51). It is regarded as a new species allied to S. præcox.

A flower of a hybrid Paphiopedilum, derived from P. × Harrisianum superbum ♀ and P. × Lathamianum ♂, is sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool. It is thus a form of P. × Pryorianum, and it is interesting to compare it with a figure in Cogniaux's *Dictionnaire*. The two differ greatly in detail, the present one being much larger and darker, having in point of fact largely retained the characters of the seed parent, while the Spicerianum influence seems to have been lost. It illustrates once more the great variability of secondary hybrids, and Mr. Young remarks:—"I can vouch for the accuracy of the parentage."

The Orchid Stud Book.—We request intending subscribers to this work to fill up and return the subscription form issued with our last number as early as possible.

ORCHID PORTRAITS.

ANCISTROCHILUS THOMSONIANUS, Rolfe, VAR. GENTILII.—*Rev. Hort. Belge*, 1904, p. 49, fig. 10, and plate.

ARACHNANTHE CATHCARTI.—*Journ. Hort.*, 1904, i., p. 229, with fig.

CŒLOGYNE CRISTATA.—*Journ. Hort.*, 1904, i. p. 247, with fig.

CYMBIDIUM GIGANTEUM WILSONI.—*Garden*, 1904, i, p. 189, with fig.

CYMBIDIUM GRANDIFLORUM.—*Gard. Mag.*, 1904, pp. 216, 220, with fig.

CYMBIDIUM WILSONI.—*Gard. Chron.*, 1904, i, p. 157, fig. 66.

CYPRIPEDIUM × AUREUM VIRGINALE.—*Journ. Hort.*, 1904, i, p. 179, with fig.

CYPRIPEDIUM × BECKMANI.—*Journ. Hort.*, 1904, i, pp. 272, 273, with fig.

CYPRIPEDIUM CALCEOLUS.—*Gard. World*, 1904, p. 255, with fig.

CYPRIPEDIUM INSIGNE SANDERÆ.—*Amer. Gard.*, 1904, p. 171, with fig.

DENDROBIUM THYRSIFLORUM.—*Garden*, 1904, i, p. 227, with fig.

LÆLIO-CATTLEYA × CHARLESWORTHII.—*Gard. Mag.* 1904, pp. 169, 170, with fig.

MEGACLINIUM PLATYRHACHIS, Rolfe.—*Bot. Mag.*, t. 7946.

MILTONIA VEXILLARIA.—*Amer. Gard.* 1904, p. 132, with fig.

ODONTOGLOSSUM CRISPUM VAR. DE BARRI.—*Gard. Chron.*, 1904, i, p. 196, fig. 80.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

G.G.T. The insect found devouring leaves and flower buds of Dendrobium is not a "Dendrobium beetle," but what is known as Otiorhynchus sulcatus, which is destructive to many succulent plants. It is not likely to be troublesome in Orchid Houses, but should be looked after.

J.S. The true Phaius tuberculosus, not the one so long wrongly known in gardens under that name. The latter has a climbing habit, and is now known as P. simulans.

W.H.R. The seedling Dendrobium of unknown parentage, we believe, is a form of D. × Rubens, a secondary hybrid between D. × Ainsworthii and D. nobile. It is very variable. The Paphiopedilum appears to be a hybrid of P. Curtisii, but the other parent is uncertain.

Photographs received with thanks. J.W.P. (notes unavoidably deferred). C.P.R.

J.W.A. The flower sent appears to be a very small, light-coloured form of Cattleya Trianæ. It is of good shape, and wants growing on. The circumstance named probably explains its small size.

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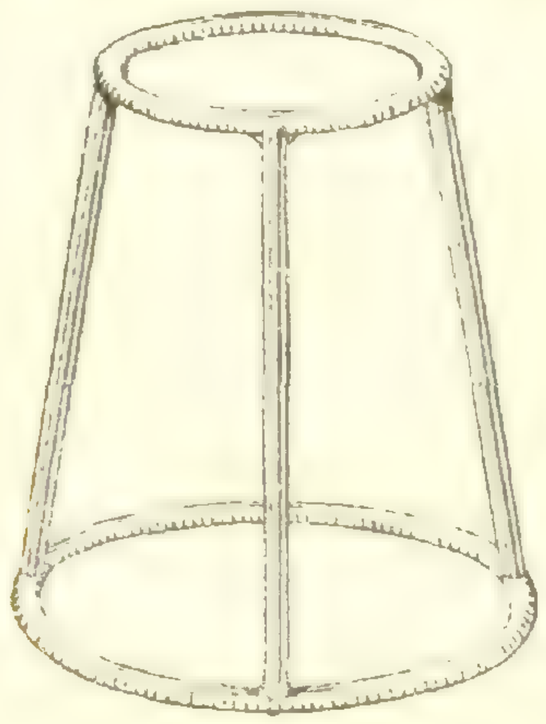

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A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

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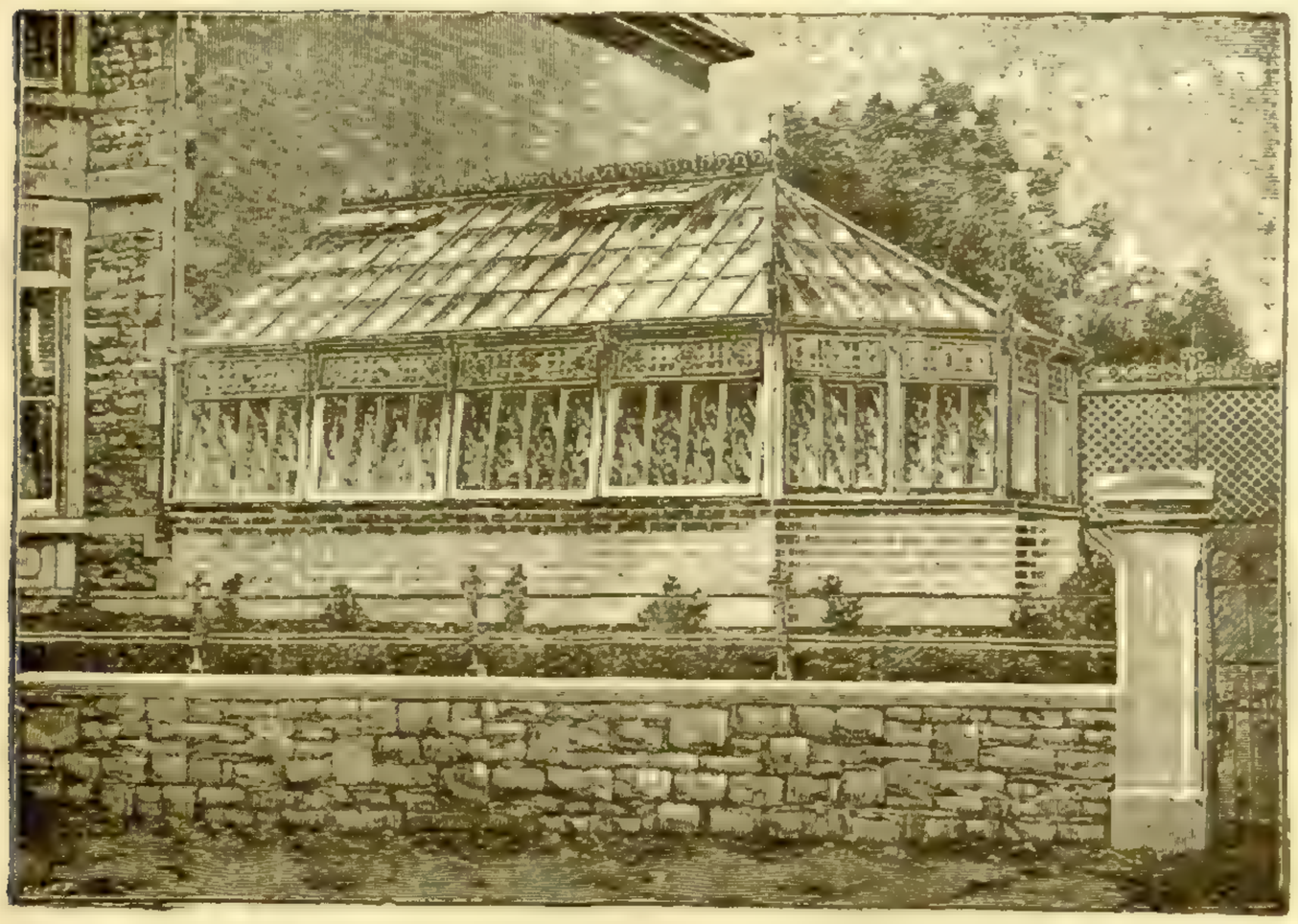

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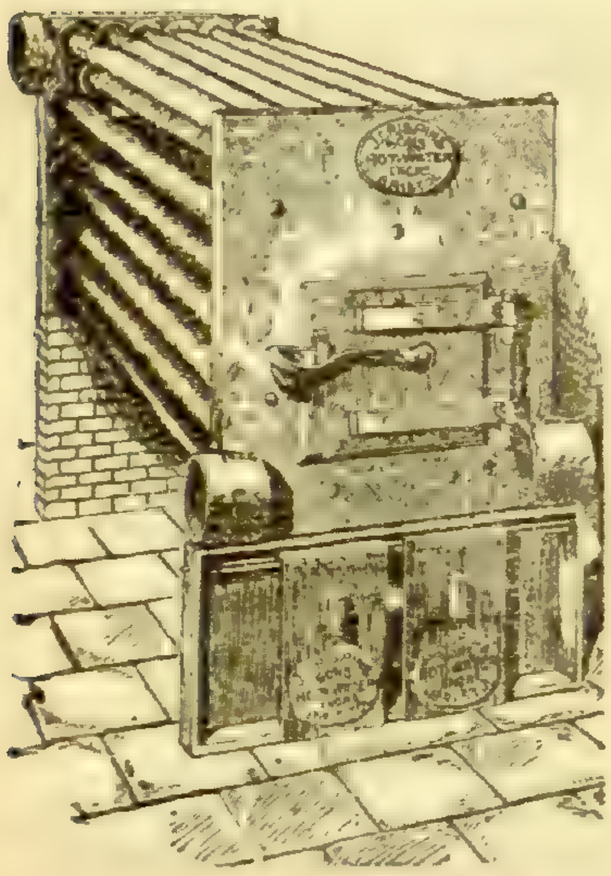

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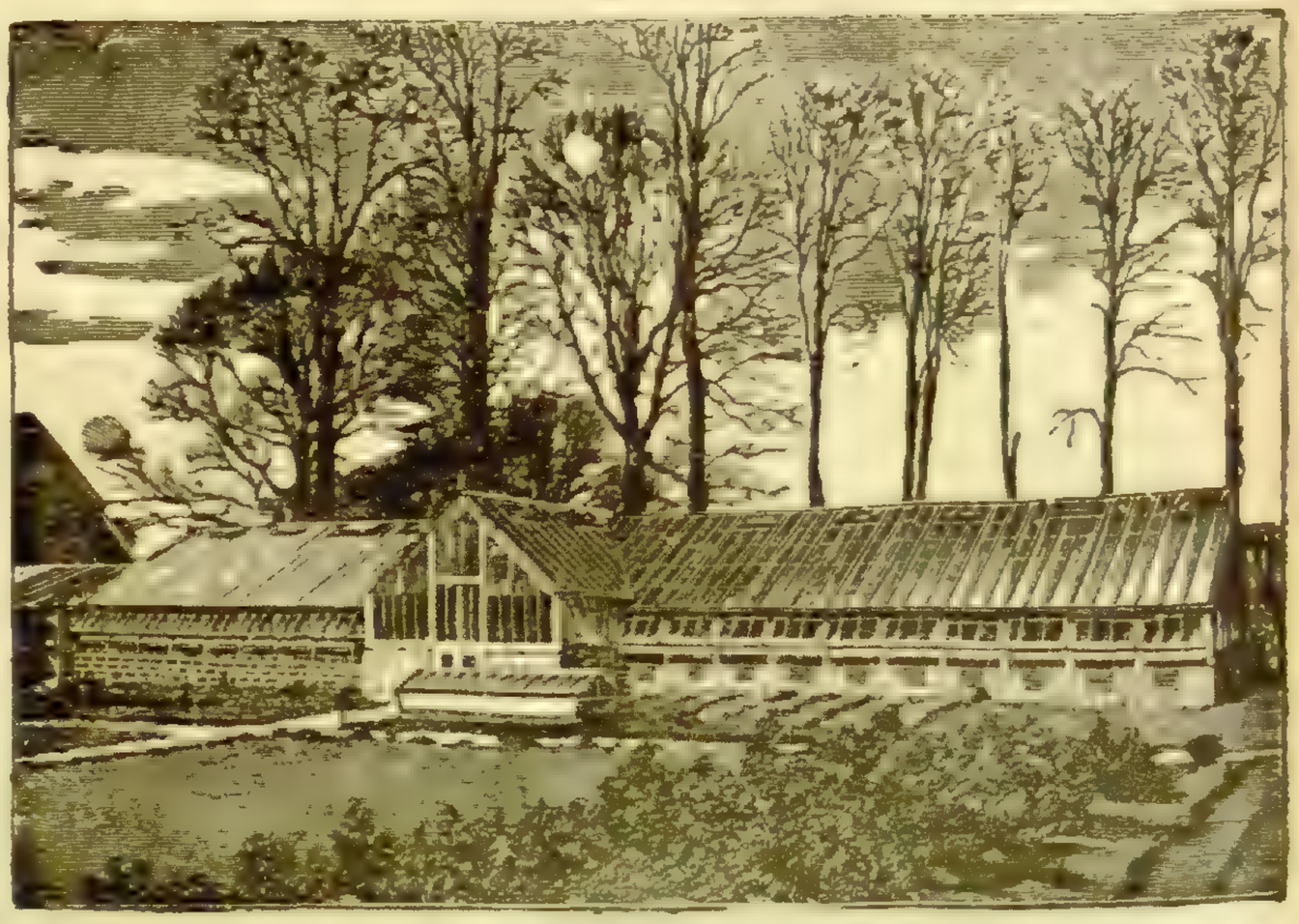

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An Illustrated Monthly Journal of Orchidology.

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STRAY NOTES.

BY CALYPSO.

THE other day I called on an amateur Orchidist and found him busy among his plants. "Don't expect too much," he said, "it's only a small collection, and I don't go in for many of those swell things; fact is, they come rather expensive, and are a little beyond me." We looked round, and I found a thriving little collection, most of the plants well grown, and a good many in flower or approaching that condition. I shall not attempt a catalogue, but may mention that some good Odontoglossums were in flower—Rossii, Cervantesii, triumphans, Pescatorei, cirrhosum, gloriosum, and of course the inevitable crispum. A little batch of the latter were imported plants, and it was hoped would contain some spotted forms, though up to the present nothing remarkable had appeared beyond two or three Andersonianums and ordinary crispum. Of course, various things besides Odontoglossum were in flower, and it was a good example of the pleasure that may be obtained from a small collection if properly looked after.

We got into conversation about Orchids generally, and the reason why they were so popular. "There's something fascinating about these plants," he said, "they're different from all other flowers, in shape and colour, and markings, and there's something to look at all the year round. If there's not much in flower at some particular time, one watches the growths and the young spikes beginning to push up. And they don't take up much room. Some plants grow tremendously for a short time, and fill the house, and then they are cut down and leave a great blank till the season comes round again, but Orchids go steadily on, and are always interesting. The potting materials, too, are clean and sweet to handle—sphagnum moss and peat, and these new-fangled oak-leaves, which I have been trying. In fact, they're just the plants for an amateur to grow, and not at all difficult if you treat them right." Yes, Orchid growing is certainly a delightful hobby.

We left the house, and he pointed out a little purple flower among the grass. "My first Orchid," he said. "Not exactly that one, of course, but it's the first Orchid I remember, and the first I ever grew." It was Orchis mascula, and it formed quite a picture in the grass—a rosette of bright green leaves covered with blackish purple blotches, and a spike of brilliant rose-purple flowers. His story is worth recording, and was something like this:—"When I was a very small boy I found in a meadow near a brook a strange flower, which I had never seen before, so I took it home. My father said it was a British Orchid, called Orchis mascula, and that it was common in the meadows over the brook. But those meadows were forbidden ground. The brook itself was an obstacle, and formed the boundary between ours and a neighbouring parish, and there was a warning against trespassers. However, I reconnoitred the situation, and found that at one spot some poles extended from a hedge across the stream, to prevent cattle from straying further down; and the coast seemed clear. Some time later a small boy might have been seen creeping back over that frail bridge with an armful of the purple flowers, which were borne home in triumph, and placed in a large jar in the dining room. But shortly afterwards they were ignominously expelled, for the odour was overpowering, and I have more than once since found them quite unsuitable for room decoration on this account."

I got rather interested in the story, and one thing that struck me as curious was that the Orchids should be so much more common on one side of the brook than the other. But it appeared that there was a very satisfactory explanation. It was simply a case of the land being drained on one side of the brook. These adjacent properties belonged to different owners, and one of them had drained his land very efficiently and adopted a system of high-class farming, while the other allowed things to take their natural course. The result was that the meadows on one side of the brook produced chiefly grass for grazing purposes, while on the other there was a great admixture of various weeds, with cowslips innumerable, and here and there were spots that were quite purple with the Orchis at flowering time.

However, they were not all on the other side of the brook, and when the small boy had attained to somewhat larger growth, and had a garden of his own, it contained also an Orchid collection, for he dug up some of the roots and planted them, and one day he found a pure white variety, which he also transplanted, and which flowered year after year, until something more important than amateur horticulture claimed his attention for a time. The Orchid collection was not a very pretentious affair, the plants being simply planted with a protecting border of stones let into the ground

to mark the spot, but they appeared year after year, and were highly valued.

I found that my friends' early experiences were not absolutely confined to Orchis mascula, for his father grew a few Orchids, and it was interesting to know what they were. First, Cypripedium insigne, which was generally kept in a vinery, where it grew well and flowered every year. The others were kept at one end of a small stove, facing south. There was a good plant of Phaius grandifolius which frequently flowered, Oncidium sphacelatum and O. flexuosum, which bloomed as regularly as the seasons came round, Dendrobium densiflorum and D. nobile, of which the same might be said. The two plants of the latter were always hung in the vinery during the Autumn to get a good rest. The names of about a dozen others were forgotten, but there was a Schomburgkia which grew well suspended from the roof, but nothing would induce it to flower. Here, then, was my friend's first introduction to Orchid growing, and the time was about forty years ago. I suggested that he had considerably improved now, but he said no, not so far as those particular plants were concerned. Those Oncidiums flowered in a way that was impossible to beat, and yet they were not grown in a special Orchid house. The shading consisted of an annual coat of whitewash, which was washed off again in the autumn, and the potting materials consisted of peat and hypnum moss (not sphagnum), which he had frequently collected himself in an old orchard. It was a very interesting visit, and I shall certainly accept my friend's invitation to look in again.

CALANTHE DISCOLOR.

Two forms of this pretty little Japanese Orchid were exhibited at the R.H.S. meeting on April 19th, by Messrs. Cutbush, of the Highgate Nurseries, and a Botanical Certificate was awarded. The species was said to be hardy. It has bee: known for over sixty years, being originally described in 1838 (*Lindl. Sert. Orch.*, sub. t. 9), at which time its habitat was unknown. It had been sent to Lindley by M. Auguste Mechelinck, of Ghent. It was afterwards figured (*Bot. Reg.*, 1840, t. 55), when Lindley remarked that it had now blossomed in several places in England, and probably came from Japan. The form figured had vinous purple sepals and petals and a nearly white lip, but there is a paler one which is less showy. It seems to be a fairly common plant in Japan, being found in numerous localities. The spikes attain a length of five or six inches, and in this condition the numerous flowers are very attractive. It would probably succeed in a cool greenhouse, but we should hardly expect it to stand our winters unprotected.

R.A.R.

ORCHIDS AT BURFORD.

BURFORD is the home of rare Orchids, and one of t he most representative collections we have, consequently a visit there is always interesting, whatever the season. The other day we called there, and found a remarkably varied assemblage of plants in flower, and, as usual, noted a few of the more interesting.

The Odontoglossums were in thriving condition, with spikes and flowers in profusion. There were many plants of O. Rossii and Cervantesii, forming quite a picture, some of the latter bearing six flowers on a spike. A fine plant of O. × crispo-Harryanum carried a spike of seventeen flowers, O. × mulus carried a fine spike of buds, and we also noted the rare O. Dormanianum, O. × Denisonæ, a fine form with white ground colour, O. Hunnewellianum, O. triumphans, O. Hallii, and some good forms of O. crispum. With these were the charming little Oncidium olivaceum carrying three racemes, several profusely flowered clumps of O. concolor, the brilliant Sopronitis grandiflora, and a fine plant of Dendrobium Victoria-Regina growing on a raft, its violet-blue flowers being very striking.

In passing, we should note that the plants are grown in leaf-compost consisting of oak-leaves, fibrous peat and sphagnum, in about equal parts. We went into one of the potting sheds and examined some of the material prepared ready for use, and we should think it quite an ideal compost. Certainly the plants thrive in it, and Mr. White is thoroughly satisfied with the results, and its use is quite general at the present time.

In another house we found Dendrobium Brymerianum and the rare D. Harveyanum side by side, and the fringed petals of the latter rendered it even more remarkable than its showier ally. There was also a plant of D. Madonnæ, and the very rare D. purpureum candidulum, bearing axillary heads of white flowers tipped with green. There were also Cirrhopetalum fimbriatum and the striking C. Collettii, also the rare Bulbophyllum tremulum (figured at page 361 of our ninth volume), the latter bearing nine racemes, and a good plant of the pretty little Leptotes bicolor.

Another house contained many rarities in flower, a large plant of the white South African Polystachya Ottonis, Ionopsis paniculata, Masdevallia trinema, Dendrobium Jerdonianum, Bifrenaria Harrisoniæ, Pholidota chinensis profusely flowered, a good Cymbidium × Lowio-eburneum, Lælia cinnabarina, the brilliant Epidendrum Ellisii, E. varicosum, E. glumaceum, E. ramosum, E. variegatum, E. Allemanii, the charming little E. Endresii bearing three racemes, E. × Endresio-Wallisii, some good Sophronitis grandiflora, Epiphronitis × Veitchii, and a very beautiful Sophro-cattleya × Marriottiana with two racemes

We noted here also the fine Paphiopedilum × nitens and P. × aureum Confetti.

A Cattleya house contained a series of interesting things; Cattleya Lawrenceana with three racemes, several good C. Schrœderæ, C. Mendelii, C. intermedia nivea, Lælio-cattleya × Ophir, the handsome L.-c. × Normani superba, L.-c. × G. S. Ball, Brasso-cattleya × nivalis, B.-c. × Lindleyana, B.-c. × Orpheus, and Brassolælia × Gratrixiæ. Here we noted a thriving plant of Moorea irrorata, and Bulbophyllum Ericssoni, the two latter being very interesting rarities not in flower.

Cœlogyne pulchella, as its name indicates, is a beautiful little plant, and was flowering in an adjoining house. It is one of the C. elata group, but has small white flowers with a large dark brown blotch on the lip. With it were some good plants of Maxillaria luteo-alba, M. præstans, M. Houtteana, and M. pumila, the latter bearing 18 flowers, Dendrobium speciosum, the pretty little D. × specio-Kingianum, D. infundibulum, the brilliant little D. subclausum bearing many scarlet flowers, Restrepia elegans with eight flowers, Lælia harpophylla, a good Cochlioda sanguinea, and two plants of the handsome Epidendrum × dellense bearing six fine heads of flowers.

The Phalænopsis house contained many interesting things, including some good examples of P. amabilis, P. Aphrodite, P. Sanderiana, P. Schilleriana, P. Lueddemanniana, and the rare P. Kunstleri, a dozen plants of the brilliant little Habenaria rhodochila in bud, Polystachya pubescens and P. cerea, Dendrobium Fitchianum, and various other things which we had not time to note. We were much interested in some good plants of a hybrid between Cattleya citrina and C. Lawrenceana, raised in the collection, which have not yet flowered.

The Masdevallia house was gay with flowers, including many very interesting rarities. M. × Pourbaixii was a charming little specimen with fourteen flowers. M. × igneo-Estradæ was represented by several nice little plants, varying considerably in colour. Other interesting kinds in flower were M. hieroglyphica, the brilliant M. × Rushtoni, M. Arminii, a good plant of M. caudata xanthocorys, M. × Asmodia with seven flowers, M. ignea aurantiaca, M. × Veitchiano-Estradæ, some well-flowered M. triangularis, M. Ephippium, M. xanthina, M. × Bocking hybrid, M. × Hincksiana, and some brilliant forms of M. coccinea, M. ignea, and M. Veitchiana. The plants of the remarkable pendulous M. deorsa were in thriving condition.

Some interesting species of Pleurothallis were in flower, including P. astrophora, a tiny gem bearing ten racemes, P. stenopetala, P. Grobyi with eighteen racemes, P. grandiflora, and various others. It was rather curious to find Pescatoreas and Bolleas doing well in this cool house, but so it was, and the handsome P. bella was bearing three unopened buds. Several other plants were in flower which we did not note.

A very interesting house was the one containing numerous seedlings of various kinds in thriving condition, and we noted that the tiny pots stood on sheets of perforated zinc, which makes a firm foundation, at the same time providing both ventilation and efficient drainage. A few very interesting things were in flower, including the fine Dendrobium × Dalhou-nobile, D. × aureo-crassinode, and a very large form of D. × micans. Here also D. lituiflorum and the beautiful D. nobile virginale were in flower.

In a small cool house we found a fine batch of Disas in healthy condition, and in succeeding houses were several Odontoglossum citrosmum, Cattleya citrina, the brilliant Epidendrum × Boundii carrying four racemes, the curious Dendrobium herbaceum, Spathoglottis × aureo-Vieillardii in fine condition, and examples of Calanthe Regnieri.

Lastly, in another warm house we found some good Phalænopsis Schilleriana, P. amabilis, P. Aphrodite, P. Sanderiana, P. Stuartiana, a good Ansellia africana, the rare Galeandra Devoniana, D. nivalis, Megaclinium falcatum, Cirrhopetalum picturatum, and several good Paphiopedilums, including the interesting P. × Dauthieri Albino, P. Godseffianum, P. Rothschildianum, P. × warnhamense, and others. In another house we had previously seen the single plant of P. Fairrieanum, one of the few now known to exist in cultivation. It is only a very small plant, and has not flowered for a good many years.

The preceding is not an exhaustive list of the different things in flower in the collection, not even of rarities, though it contains the more striking of these. And it must be added that the collection generally is in excellent condition, and reflects great credit on Mr. White and his assistants. Such a varied collection entails a great amount of care and attention, but the trouble is amply repaid, and we are glad to know that other amateurs are following the excellent example set by Sir Trevor Lawrence, and including some of the more striking curios in their collections. There is an abundance of materials to select from.

ORCHID PROPAGATING BY BULBILS.—Orchids which propagate by bulbils are not common, but the North American Microstylis ophioglossoides seems to come under this heading. A note by Harriet A. Nye (*Rhodora*, vi., p. 79) states that when preparing a specimen for the Herbarium she observed that several bulblets had formed underneath the loose outer coat of the bulb, very much as seen in Vallota bulbs. They were pearly white and closely resembled small kernels of rice. One of them had already sent up a tiny leaf on a stem half-an-inch long. We do not know if the plant usually propagates itself in this manner.

NOVELTIES.

CŒLOGYNE VENUSTA.—An interesting addition to the Cœlogyne Dayana group, which was introduced from Yunnan, by Messrs. Sander & Sons, St. Albans, and recently flowered in the Royal Botanic Gardens, Glasnevin. It is a very graceful plant, having pendulous scapes of about 10 inches long, and very numerous flowers, the sepals and petals being very light buff, and 6 to 7 lines long, while the lip is white, with the side-lobes and centre of the front lobe light yellow. On the base of the latter occur six undulate keels, which are tipped with brown, and the central pair extend down the disc of the lip to near its base, and are separated by a deep channel. It is a smaller plant than most of its allies, and is distinguished from all of them by the relatively much greater proportion which the front-lobe bears to the side-lobes. The specific name refers to the graceful character of the plant.—Rolfe in *Gard. Chron.*, 1904, i. p. 259.

DENDROBIUM BELLATULUM.—Although not strictly speaking a novelty, this beautiful little plant is scarcely known in cultivation at present, and it is interesting to note that Messrs. Sander & Sons have now obtained a batch from a new locality. It was originally discovered by Dr. Augustine Henry in Yunnan, growing on trees in the south-eastern mountain forests of Mengtze, at 5,000 feet elevation, and was described over a year ago (Rolfe in *Journ. Linn. Soc.* xxxvi., p. 10) as a beautiful little plant, much like a miniature edition of Dendrobium formosum. Soon afterwards some plants were received by Messrs. James Veitch & Sons, through their collector, Mr. Wilson, and one of these flowered imperfectly at Kew some time ago (*O.R.* xi., p. 100). It has now been discovered in Annam, growing on Oak-trees at Lang Bian, at 1400 to 1500 métres elevation, and flowering in November and December, the discoverer being W. Micholitz, who has sent a batch of living plants to Messrs. Sander & Sons, St. Albans, so that we may soon know something more about it. It grows in dense tufts of only a few inches high, and native specimens show that it flowers very freely. The pseudo-bulbs are fusiform-oblong, about three inches long, and they bear three to four oblong or elliptical-oblong leaves, 1 to 1¾ inches long by 5 to 9 lines broad, and one to three terminal flowers, which are very large for the size of the plant; the sepals measuring 9 to 10 lines, and the petals 10 to 12 lines long. The latter are united with the foot of the column and prolonged behind into a broad mentum or sac, some 4 to 5 lines long, which is obtuse, not acute, as in all other members of the Formosæ group. The lip is pandurately trilobed, and 13 to 15 lines long, with the side lobes rounded, and the front lobe obcordately bilobed, while the disc bears five verrucose keels. Micholitz describes the plant as growing in dense tufts, the leaves as glaucous, the sepals and petals as white, the front lobe of the lip reddish

orange, the side lobes pale cinnabar to carmine, and the disc and basal parts of the lip and column as generally dark cinnabar or carmine, but in some flowers the whole flower is light cinnabar coloured. As in other species of the group, the pseudo-bulbs and leaves are covered with black pubescence. It is a remarkable little plant, and it will be interesting to watch its behaviour under cultivation.

R. A. R.

PTEROGLOSSASPIS ECRISTATA.

IT was a matter of considerable geographical interest when a new species of the African genus Pteroglossaspis was discovered in Argentina, namely P. argentina, Rolfe (ex Stuckert in *Anal. Mus. Nac. Buenos Aires*, ix., p. 11), but it now appears that we have another American species in the above-named plant, whose systematic position has been hitherto somewhat doubtful. It was first discovered by A. H. Curtiss on dry pine barrens, near Jacksonville, Florida, and confused by Chapman with Bletia verecunda, though the author afterwards discovered his mistake, and referred the plant with some doubt to Cyrtopodium Woodfordii, which was also incorrect. Fernald, relying on a note by Bentham (to whom it was referred by the late Sereno Watson) described it as a new species of Cyrtopodium, under the name of C. ecristatum, which Small afterwards erected into a new genus, under the name of Triorchos ecristata. And now Mr. Oakes Ames has transferred it to Eulophia, as E. ecristata. When Bentham did the Orchids for the *Genera Plantarum* Pteroglossaspis was only known by a single Abyssinian species, P. eustachya, Rchb. f., but afterwards were successively described; P. Engleriana, Kränzl., from Mt. Kilimanjaro, P. ruwenzoriensis, Rolfe, from Mt. Ruwenzori, P. Carsoni, Rolfe, from the neighbourhood of Lake Tanganyika, and P. argentina, Rolfe, from Argentina. The present addition agrees with the others both in structure and habit, but has broader leaves and longer laxer racemes. The genus is near Cyrtopodium, but is markedly different in its strict spikes and long acuminate bracts, in which a spiral arrangement is clearly shown. The following is the synonymy of the species:—Bletia verecunda, *Chapm. Fl. S. U. St.*, p. 456, in part (not R. Br.); Cyrtopodium Woodfordii, *Chapm., l. c.* suppl., p. 654 (not Sims); C. ecristatum, Fernald in *Coult. Bot. Gazette*, xxiv. p. 433; Triorchos ecristatus, *Small, Fl. S. E. U. St.*, p. 329; Eulophia ecristata, Ames, *Contrib. from Ames Bot. Lab.*, i., p. 19. It seems to be confined to dry pine barrens in Eastern and peninsular Florida, where it is locally common. The flowers are described as yellowish outside and purplish brown within.

R. A. ROLFE.

DENDROBIUM LINGUIFORME.

THE vast genus Dendrobium contains a remarkably polymorphic assemblage of species, so far as habit is concerned, and the one here figured is quite anomalous in this respect—in fact it is difficult at the first glance to say whether the vegetative organs shown are pseudobulbs or leaves. It is a very graceful little plant when in flower, and makes itself quite at home if suspended in a moderately warm house and treated like others which prefer a similar position. It is a native of Queensland and New South Wales, and was described over a century ago by Swartz, under the name of D. linguiforme (*Kongl. Vet. Acad.*, 1800, p. 247), and afterwards figured from dried specimens in *Smith's Exotic Botany* (i. t. 11). The name refers to the shape of the short, very fleshy leaves. It was introduced to cultivation

FIG. 23. DENDROBIUM LINGUIFORME.

about the year 1860, by Mr. Hill, of the Brisbane Botanic Garden, who sent living plants from Moreton Bay to Kew, where they flowered, and a figure shortly afterwards appeared in the *Botanical Magazine* (t. 5249). The singular fleshy leaves are borne alternately on short creeping rhizomes, but the pseudobulbs are absent, and the flowers are white, with some pink spots on the lip and a little yellow on the disc. It is probably most allied to D. cucumerinum (*Bot. Mag.*, t. 4619), which Lindley described as much resembling a heap of little cucumbers, whence the name was derived. Lindley formed the section Rhizobium to contain these two plants, together with D. pugioniforme and D. rigidum, two other species not

known in cultivation. He described the members of this section as "obscure species, with nothing more than a creeping rhizome, bearing solitary coriaceous leaves" (*Paxt. Fl. Gard.*, i., p. 136). D. teretifolium also belongs to the same group, but is easily distinguished by its long, pendulous, whip-like leaves, though the flowers of the two are very similar. The specimen here figured flowered at Kew early in the present year, and the photograph was taken by Mr. Raffil. The plant, it will be noticed, is grown in a small basket.—R. A. R.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Drill Hall, Buckingham Gate, Westminster, on April 5th last, when some choice exhibits were staged, though the display of Orchids was smaller than at the two or three preceding meetings.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, (gr. Mr. Thurgood), gained a Gold Medal with a magnificent group, chiefly Odontoglossums, including Odontoglossum crispum F. K. Sander, a splendid form very heavily blotched with claret-red, which has improved considerably since it was exhibited at the Temple Show last year; O. c. British Queen, O. c. Prebendary Bevan, O. c. Maude Rochford, O. c. Abner Hassel, O. c. Pitt's var., O. × bellatutum, O. × lochristiense, O. × Humeanum, O. Pescatorei Pitt's variety, O. Hallii, O. triumphans, Maxillaria luteo-alba, Cymbidium eburneum, and other plants. A First-class Certificate was given to Odontoglossum cirrhosum Pitt's var., an exceptionally fine form.

W. Thompson, Esq., Walton Grange, Stone, Staff., (gr. Mr. Stevens), obtained a Silver Flora Medal for a fine group of Ondontoglossums, all well grown and finely flowered, the more noteworthy being O. luteopurpureum nobilior, O. Pescatorei, O. × Andrianæ and varieties of O. crispum.

J. G. Fowler, Esq., Glebelands, South Woodford (gr. Mr. Davis), exhibited a specimen plant of Dendrobium Wardianum Fowleri, which is remarkable for having some lip-like markings on the lateral sepals, a peculiarity which proves constant, as the variety has now been cultivated for several years. A Cultural Commendation was awarded.

J. Bradshaw, Esq., Southgate (gr. Mr. Whitelegge), exhibited Odontoglossum × excellens Lowiæ, Cattleya Trianæ perfecta, and Lælio-cattleya × Digbyano-Schrœderæ alba, an Award of Merit being given to the latter, a beautiful nearly white variety, with a sulphur-yellow disc on the handsomely fringed lip.

N. C. Cookson, Esq., Oakwood, Wylam (gr. Mr. Chapman), sent a small spike of a finely blotched form of O. crispum.

H. Little, Esq., Baronshalt, Twickenham (gr. Mr. Howard), showed four good varieties of Cattleya Schrœderæ.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), showed a good Odontoglossum crispum, tinted with rose, and O. × Andersonianum.

F. A. Rehder, Esq., Gipsy Hill, (gr. Mr. Norris), exhibited a very good Cypripedium × Harrisianum variety excelsior.

Baron Sir. H. Schröder, Bart., The Dell, Egham (gr. Mr. Ballantine), sent spikes of the large Odontoglossum × Adrianæ Orient, O. × Leeanum, and the handsome O. crispum Princess Christian.

W. C. Walker, Esq., Winchmore Hill (gr. Mr. Bunney), showed Odontoglossum luteopurpureum, and the rare Eriopsis rutidobulbon.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), exhibited Cypripedium × allertonense Westfield variety (bellatulum × villosum), and Cattleya amethystoglossa, a very good form having the flowers tinged with pink and very profusely spotted.

Messrs. Sander & Sons, St. Albans, were awarded a Silver Flora Medal for a fine group, principally Odontoglossums, including O. × Adrianæ, O. luteopurpureum Vuylstekei, O. × Wilckeanum, O. × loochristiense, forms of O. crispum, Lælio-cattleya × bletchleyensis, L.-c. × luminosa Fascinator, Cattleya × guatemalensis, Miltonia vexillaria Empress Augusta, Angræcum Sanderianum, Oncidium concolor, Maxillaria Sanderiana, Zygocolax × Amesianus, Phaius Wallichii, and others.

Messrs. H. Low & Co., Bush Hill Park, staged an effective group, for which a Silver Banksian Medal was awarded. It contained Ada aurantiaca, Cymbidium × eburneo-Lowianum, Dendrobium × Venus, D. Boxallii, D. Jamesianum, D. × Sibyl, Cypripedium Rœbelinii, with three spikes, C. niveum, Lycaste costata, Cattleya intermedia alba, C. Trianæ, C. Mendelii, and others.

Messrs. J. Veitch & Sons, Chelsea, exhibited Lælio-cattleya × Mona (L. flava × C. Schrœderæ), to which an Award of Merit was given. The flowers are soft cowslip yellow in colour.

Messrs. Linden & Co., Brussels, exhibited Selenipedium × Madame Linden (grande × caudatum Wallisii), having large cream-white flowers, tinged with rose and green.

Mr. J Douglas, Edenside, Gt. Bookham, sent a light coloured Cypripedium × Deedmanianum.

AT the second meeting, held on April 19th, a very fine display of Orchids was seen, and owing to the quantity of spring flowers shown, the Orchids had to be exhibited in the canteen.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), gained a Silver-gilt Flora Medal for a magnificent group, consisting chiefly of

Odontoglossums, and including O. crispum Maud Rochford, O. c. Pittiæ, O. c. Lindeni, O. c. King Richard, O. × Adrianæ, O. × loochristiense, the fine O. cirrhosum Pitt's variety, Cattleya Schrœdera alba, *Zygopetalum* × Sanderi, *Z* × Perrenoudi Cecil Rhodes, Oncidium phymatochilum, Cymbidium × eburneo-Lowianum, and other plants.

J. G. Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis), was also awarded a Silver Flora Medal for a splendid group, containing some huge specimens of Dendrobium Devonianum covered with flowers, D. Wardianum giganteum, D. W. album, Cymbidium Lowianum concolor, C. × eburneo-Lowianum, Cypripedium × W. R. Lee, Cattleya intermedia Fowleri, and C. Schrœderæ Fowler's variety, the last a very large and beautitul form, peach blossom in colour, with the disc of the lip orange and a yellow line down the centre of each lateral sepal. It was deservedly given an Award of Merit.

N. C. Cookson, Esq., Oakwood, Wylam (gr. Mr. H. J. Chapman), sent Dendrobium × Venus Oakwood variety, the pretty Odontoglossum crispum Smeeanum having the flower tinted with rose and marked with many small brown spots, and O. c. xanthotes Cooksoniæ, the last receiving a First Class Certificate. This had a beautiful white flower of perfect shape, and bearing a few orange coloured spots, chiefly on the lip.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), again showed the handsome Odontoglossum triumphans Lionel Crawshay, and O. crispum Venus; the latter a beautiful white form slightly tinged with rose, which received an Award of Merit.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed Cypripedium × Wellesleyanum, a suggested natural hybrid between C. bellatulum and C. concolor, which is noted on another page. An Award of Merit was given.

D. O. Drewett, Esq., Riding Mill-on-Tyne (gr. Mr. Renwick), sent a spike and leaf of Cypripedium × Lowio-Parishii (Lowianum × Parishii), having four flowers of intermediate shape, the dorsal sepal yellowish, with some longitudinal purple lines sepal, and the petals greenish, spotted with brown toward the base, and wholly purple toward the apex.

Capt. G. L. Holford, C.I.E., Westonbirt, Tetbury (gr. Mr. Alexander), sent a good Odotoglossum × Andersonianum, having the flower heavily marked with purple-brown.

L. Mond, Esq., Avenue Road, Regent's Park (gr. Mr. Clarke), exhibited a plant called Lælio-cattleya × inter-elegans Blanche Gertrude, and a plant of Cymbidium Lowianum exquisitum, in which the markings on the lip were unusually bright.

A. Warburton, Esq., Haslingden, showed a very handsome form of Odontoglossum × ardentissimum called Warburton's variety.

H. Whateley, Esq., Kenilworth, sent several fine Odontoglossums, a variety of O. crispum marked with purple being very good.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), exhibited a spike of Eulophiella Elisabethæ out of the original importation, Odontoglossum polyxanthum grandiflorum with a spike of sixteen flowers, two varieties of O. × Adrianæ, and Cymbidium × I'Ansoni, the latter a rare natural hybrid between C. Lowianum and C. Tracyanum, which was figured at page 209 of our eighth volume.

Messrs. Sander & Sons, St. Albans, staged a very fine group, to which a Silver Flora Medal was awarded. It contained Lælio-cattleya × Dominiana, L.-c. × Ruby Gem var. Flambeau, the bright yellow L.-c. × Bird of Paradise (L. flava × C. Mendelii), having a ruby front to the lip, Lycaste xytriophora, L. Schilleriana magnifica, Sobralia Amesiana, and other plants. A First-class Certificate was given to Zygopetalum × Gottianum (maxillare Gautieri × Perrenoudii), a very pretty hybrid, having dark bronzy-purple sepals and petals with a pale margin and apex, and a white lip lined with blue throughout.

Messrs. J. Veitch & Sons, Chelsea, staged a good group, to which a Silver Flora Medal was awarded. It included Epidendrum × Delphi, varieties of E. × elegantulum, Lælia × Mrs. Gratrix, L. × Latona, Lælio-cattleya × Zephyra, L.-c. × highburiensis, L.-c. × Frederick Boyle, Dendrobium × crepidato-nobile, and others. A First-class Certificate was given to D. × Thwaitesiæ, Veitch's variety (splendidissimum grandiflorum × Wiganiæ), a large and very beautiful hybrid most like the former in size and shape, but the ground colour a beautiful yellow.

Messrs. J. & A. A. McBean, Cooksbridge, were also awarded a Silver Flora Medal for a fine group of Odontoglossums, containing many O. crispum, O. Hallii, O. luteopurpureum, O. × loochristiense, O. × Adrianæ, &c., all very well-grown.

Messrs. Cutbush, The Nurseries, Highgate, obtained a Botanical Certificate for Calanthe discolor, a pretty Japanese species said to be hardy, and having the sepals and petals brownish, and the lip white, slightly tinged with rose.

Messrs. H. Low & Co., Bush Hill Park, showed a very effective group, containing Dendrobium tortile, D. Pierardi, D. crepidatum, D. chrysotoxum, D. lituiflorum, Cattleya intermedia, Lycaste Skinneri alba, Cymbidium Lowianum, Bush Hill Park var., Cypripedium × Drurio-Hookeræ, and others.

M. Ch. Vuylsteke, Loochristi, Ghent, showed a small group of Odontoglossums.

MANCHESTER AND NORTH OF ENGLAND ORCHIDS.

A meeting of this Society was held at the Coal Exchange, Manchester, on March 18th last, when there was a good display of plants, several choice groups being staged.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), staged a charming group of Odontoglossums, to which a Silver Medal was given.

W. Duckworth, Esq., Flixton (gr. Mr. Tindall), staged a good group consisting largely of Dendrobiums, and received a Bronze Medal, a Cultural Certificate also going to a fine plant of Cymbidium × eburneo-Lowianum.

G. W. Law-Schofield, Esq., New Hall Hey, Rawtenstal (gr. Mr. Schill), received Awards of Merit for three beautiful plants, called Odontoglossum × Annie Louise (O. sceptrum × O. crispum), O. × Rolfeæ Mary Beatrice, and Lælio-cattleya × eximia Mary Beatrice.

S. Gratrix, Esq., Whalley Range (gr. Mr. G. Cypher), gained an Award of Merit for a plant called Lælio-cattleya × ardentissima var. Gratrixiæ.

Messrs. J. Cypher & Sons, Cheltenham, staged a very beautiful group, consisting chiefly of finely-grown and profusely-flowered Dendrobiums, in which some good forms of Dendrobium nobile and numerous hybrids were included. A Bronze Medal was awarded.

Interesting groups were also sent by Messrs. Charlesworth & Co., Messrs. A. J. Keeling & Sons, Mr. S. Allen, and Mr. Thorpe, a Vote of Thanks in each case being accorded.

ORCHID SHOW AT CALCUTTA.

Indian Gardening states that Mr. S. P. Chatterji's Orchid and Flower Show, held at Calcutta on Saturday, Sunday, and Monday, April 12th to 14th, was one of the most beautiful he has ever held. The Orchids were the grandest yet seen at his nurseries, and Mr. Chatterji thinks they have never been seen to better effect. There was a bewildering beauty and variety about the show which elicited exclamations of delight from all. The huge conservatory is described as literally ablaze with Orchid blooms, and "from the conservatory one suddenly came upon the glass house, which was a dream of floral loveliness. The girders were literally swathed in masses of Dendrobium aggregatum. The side benches were resplendent with such beautiful things as Vanda tricolor, the rare Australian Dendrobium superbiens, Renanthera coccinea and Imschootiana, Cattleya Trianæ, Mossiæ, speciosissima and Leopoldi ; Oncidium splendidum, luridum and ampliatum majus, Cypripedium hirsutissimum and insigne, great spikes of Dendrobium nobile, superbum, primulinum, albo-sanguineum, infundibulum, Farmeri and the old familiar Pierardi. Phaius Wallichii was in great form." A

good collection of Orchids was exhibited from the Royal Botanic Garden, Calcutta, together with a grand plant of Stauropsis gigantea and a well-arranged collection of Phalænopsis from Seth Dooly Chand, also a choice collection of Dendrobiums and a magnificent collection of Phaius from the Hon. Mr. A. A. Apear. The Orchids were arranged with ferns and foliage plants. We have not space for a full report of the show, on the success of which the promoters must be congratulated.

LEAF-MOULD FOR ORCHIDS.

A VERY fine group of Odontoglossums from the collection of N. C. Cookson, Esq., is figured in the *Gardeners' Chronicle* for April 23rd (p. 261), and affords an excellent illustration of what leaf-mould culture can do. On the preceding page is a very interesting note by Mr. H. J. Chapman, which it may be interesting to reproduce :—" A great deal has been written both for and against the use of leaf-soil as an ingredient in the potting compost. Many cultivators I know have not found the success they expected from its use, and have concluded that no advantages are to be obtained from it. I do not suppose there is a trade collection in the country where plants have been propagated to the extent they are at Oakwood. As these results are produced by the inclusion of a considerable proportion of leaf-soil in the potting compost, there can be no doubt that its use is advantageous. Success or failure with it depends almost entirely upon the treatment afforded the plants by those having charge of them. No one should adopt leaf-soil cultivation for Orchids who is unable to afford root waterings with discretion and care. It is a difficult matter to get young gardeners to give sufficient attention to this matter ; a large collection of plants can only be partly overlooked by the "responsible head." Where the use of leaf-soil is properly understood there is little fear of its being discarded. Not only does it save using so much peat, but the labour in potting and general attention is so greatly diminished that a man can attend to nearly twice the number of plants that he could manage under the old system. Complaints are made as to the quality of the flowers, many contending that with leaf-soil in the potting compost there is an absence of texture which affects the durability of the flowers. This also depends upon the treatment given the plants. With the greater amount of compost the plants obtain more feeding matter, and the larger pseudo-bulbs take so much more ripening than small ones that considerably more light is necessary properly to mature the growths. Unless proper ripening is effected, unsatisfactory results are, as a natural course, bound to occur. The plants in the illustration will show that satisfactory results are obtained, even as far north as Newcastle-on-Tyne, from the inclusion of

leaf-soil to the extent of one-third, and there is no reason why better results should not be obtainable in more favourable situations."

In connection with the very interesting report on Leaf-mould for Orchids, by J. Wilson Potter, Esq., of Croydon, published at pp. 106-110 of our last issue, we received a fine series of photographs showing the actual results obtained by the use of the compost described. A notice of these had to be deferred, but we can now say that they afford a striking illustration of the excellence of the treatment. The photographs represent the following species :—Cattleya Mendelii, C. Percivaliana (two), C. Trianæ (two), Lælia acuminata alba, L. anceps, L. purpurata (two), L. tenebrosa, Lælio-cattleya × elegans, Dendrobium Phalænopsis, and Odontoglossum carniferum. The plants are strong and healthy, and the growths show remarkable vigour. One plant of Cattleya Trinæ shows three flowering growths, and Mr. Potter remarks that as soon as one growth finished up in the autumn a second began to push, and all three flowered in March, 1904, producing two flowers each. The plant is remarkably sturdy. The same may be said of Lælia purpurata, L. anceps, Dendrobium Phalænopsis, and Odontoglossum carniferum, while the photographs of Cattleya Percivaliana also quite bear out what Mr. Potter stated about them last month. It is, however, invidious to particularise, for all are excellent testimonials to the virtues of the compost.

OBITUARY.

EDWIN HILL.—The Orchid Committee of the R.H.S. has just lost a highly-respected member, in the person of Mr. Edwin Hill, gardener to the Right Hon. Lord Rothschild, Tring Park, who died at St. Bartholomew's Hospital on Wednesday morning, April 13th, after an operation for an internal malady on the previous afternoon. Mr. Hill was an excellent all-round gardener, and the condition of the Orchids at Tring Park is well known, Phalænopsis especially being cultivated there with great success, so much so that Messrs. Veitch in their *Manual of Orchidaceous Plants* remark (vii., p. 19) :—"The most prominent instance of the successful cultivation of these plants is well known to us at Tring Park, the seat of the Right Hon. Lord Rothschild." And after describing the house and the method of treatment they remark that many of the plants have been cultivated for ten years, and have not only flowered in a satisfactory manner, but have greatly increased in size. This was thirteen years ago, and the plants still remain in thriving condition. Mr. Hill remained in harness up to the last, though for some time he had been in failing health. He will be succeeded by Mr. Dyer.

EPIDENDRUM ENDRESII.

THE annexed figure represents a plant of the pretty little Epidendrum Endresii which flowered in the Kew collection early in the present year, and was photographed by Mr. Raffil. It is a charming little species, but very rare in cultivation, owing to difficulty in importing it alive. It is a native of Costa Rica, where it was discovered in 1873 by Endres, who, however, failed to send home living plants. Some five years later, however, it was re-discovered by Mr. F. C. Lehmann, who succeeded in transmitting to Europe one or two living plants. Subsequent attempts have been made to import it, but it is said that only a very few plants have survived the

FIG. 24. EPIDENDRUM ENDRESII.

voyage. It was described by Reichenbach in 1883 (*Gard. Chron.*, 1883, i., p. 432), and subsequently figured (*l. c.*, 1885, i., p. 504, fig. 91). Little seems to be known about its habitat, but it is evidently a mountain plant, and succeeds under intermediate house treatment. The stems are about six to nine inches high, bearing short ovate-oblong leaves, and terminal racemes of whitish-lilac flowers, with a few purple spots on the lip and column. The leaf-sheaths are strongly verrucose, giving the stems a very curious appearance. It flowers during the winter months, and is well figured at t. 7855 of the *Botanical Magazine*. There are two other species

of the same group, namely E. pumilum and E. centropetalum. The former is also a native of Costa Rica, which flowered with Messrs. Sander in 1890, and was described some three years later (Rolfe in *Kew Bull.*, 1893, p. 171). It is very similar in habit, but has light greenish yellow flowers with an orange callus to the lip. E. centropetalum was discovered on the Chiriqui Volcano, at 7,000 feet elevation, by Warscewicz, but has not been introduced to cultivation, though from its dwarf habit and rose-coloured flowers it should prove equally attractive. R. A. R.

DENDROBIUMS FROM WEST DERBY.

SEVERAL very finely-grown Dendrobiums are sent from the collection of A. H. Bencke, Esq., West Derby, Liverpool, by Mr. Bache. Half-a-dozen forms of D. nobile are excellent, and include the remarkable variety Cooksonianum, and a good dark variety which is said to be a seedling and to have a most vigorous constitution. It is certainly a very attractive variety. Two four-flowered racemes of D. × Ainsworthii are taken from a plant said to be carrying about a thousand flowers, which formed a fine sight when at its best. The flowers are snow-white with a bright crimson-purple feathered blotch, forming a most effective contrast: D. × Cybele is represented by flowers of a very pretty seedling, raised from D. nobile Hutchinson's variety × D. Findlayanum. The flowers are very large and it should develop into a fine thing. Another seedling is from D. n. Cooksonianum × Ainsworthii, and as both parents are also sent it is interesting to compare them. The seedling has nearly white segments with a very dark disc, in which scarcely a trace of the feathered margin remains. The Cooksonian character is quite lost. Mr. Bache says that the plant is remarkably strong, as it is only four years old this season, and is now making thirteen strong leads. It must be considered a light form of D. × Rubens, and will no doubt be taken care of. Lastly must be mentioned a form of D. nobile approaching the variety albiflorum, but remarkable for the great length of the pedicels, which measure three inches long. It came as an imported plant, with a dark form of D. nobile, and was a mere scrap when separated, but is now a fair-sized plant which made seven bulbs last season. The long pedicels are said to be a constant feature, and have attracted much attention. The flowers are medium-sized, white, with very small purple tips, and the disc of the lip small and very dark. It is a very charming group, and the fine development of the flowers shows evidence of excellent culture.

Dendrobiums are among the most useful of spring-flowering Orchids, and with the number of species and hybrids now in existence, the display of flowers can be prolonged for a considerable time.

CALENDAR OF OPERATIONS FOR MAY.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

WE may safely assume that with the advent of May the summer treatment of Orchids should commence, and as a general guide to the temperature which should be maintained the following figures may be of some assistance:—

EAST INDIAN HOUSE.—Day, with sun heat, 85°; without sun, 70° to 75°; night, 70°; morning 60° to 65°; the early morning temperature being the coldest in their native habitats.

CATTLEYA AND INTERMEDIATE HOUSES.—The inmates of these departments are fond of plenty of heat from now onwards, and these houses may now range from 70° to 80°, or higher during sunny, warm weather with a right temperature of 60° to 65°.

COOL OR ODONTOGLOSSUM HOUSE.—This structure should now be kept as cool as possible, both night and day, for strong heat is most distasteful to Odontoglossums, and especially so if insufficiently ventilated. The cultivator cannot prevent the temperature rising in hot weather, inside as well as out, but by giving air he can avoid a close, stuffy atmosphere.

FIRE HEAT cannot very well be dispensed with yet awhile; and in the warmest house it must yet be given at night for some time to come, and also during dull, sunless and cold days. The intermediate departments will likewise, unless the weather very much alter, still require a little at night for some few weeks, but during the day, unless the weather be exceptionally cold and cheerless, none should be needed. Fire heat should only be used when really necessary; at other times it is an evil, and does more harm than good.

MOISTURE.—As we are now entering on the growing season proper, when the days are long and the sun powerful, let there be no lack of atmospheric moisture. This is most necessary at the present time, as everything is bristling with new roots and new growths, which must be encouraged by every possible means. Make use of the syringe about the house, two or three times a day at least, in fact it is now almost impossible to create too much moisture, that is if the ventilators are properly manipulated.

WATERING.—It will scarcely be possible now, generally speaking, to go far wrong in the matter of watering at the root. Much larger supplies are, of course, necessary than in winter. A pretty safe guide to follow is to allow the surface compost to become whitish in appearance, denoting that the under part is also getting dry, and then to give a good watering with a spouted pot. One can quickly learn if the compost is in a sound and well-

drained condition by the frequency of waterings required. I am speaking, of course, of the ordinary compost peat and moss, but with leaf soil more discretion will have to be used.

TOP-DRESSING.—Where repotting is not necessary I strongly advise that each plant should be top-dressed with clean, living sphagnum moss. The top layer of old compost should be carefully removed from between the roots, by the aid of a pointed stick, and replaced with a layer of new sweet material placed on rather lightly. This not only improves the appearance of the plant very much, but it also loosens the moss so that the air and water can have freer access to the under roots. The new compost laid round the plants seems also to greatly assist growth, the new roots certainly enter it very approvingly. It is scarcely necessary to use peat for top-dressing purposes, unless the plants are of large size, when some may be used with the moss. This work of top-dressing and repotting will keep us busy for some time to come, it being the best possible time for so doing. Always remember to well shade a newly-potted plant, and to moisten its surroundings, surface compost, and foliage, with the syringe occasionally, so that an undue loss of foliage or of shrivelling may be avoided. It will then soon become re-established, and take the uniform treatment.

FLOWERS SPOTTING.—This is a frequent source of annoyance, the chief cause of which is the damp atmosphere necessary for the growth of the plants, and it is bound to occur as soon as the warmth from the pipes is discontinued during the nights. The only possible preventative is to maintain a slight warmth in the pipes with, at the same time, a gentle circulation of air. It is a pity to lose a fine show of Odontoglossums through spot, and the little warmth necessary to avoid such a loss can scarcely have any ill-effect from a cultural standpoint for a few weeks while the chief show is on. This is where the usefulness of a show or flowering house comes in, which can be kept at the right atmospherical condition for preserving the flowers in a perfect state. Often one may see beautiful Cattleyas spoilt nearly as soon as they expand, only through the cool moisture at night, which, on the other hand, is advantageous to growth.

As the Cymbidiums pass out of bloom their wants should be attended to. C. Lowianum, giganteum, and Tracyanum grow very vigorously in the coolest house, in fact, the whole of the other kinds also grow well there, but are better for intermediate treatment duriug the winter and spring months. They delight in what is, for an Orchid, a comparatively rich compost, and if loam is used it should be of the best fibrous nature. A suitable compost consists of two parts each of good fibrous loam and peat, obtained in as lumpy a state as possible, one part of decayed cow-manure, partially dried before using, and sufficient coarse sand, and finely broken crocks to render the whole porous. The roots of Cymbidiums are large

and fleshy, and they therefore prefer a moderate amount of space in which to ramble. This should be borne in mind, when they require re-potting, and pots of a reasonable size should be selected, so that they may go on for some time without root disturbance being again necessary. It is best to drain the pots only one-third, thus allowing more room for the compost and roots. After potting keep the plants moderately well shaded and moist, but avoid getting the new compost too wet for a time until the roots make a fresh start.

Cattleyas which were previously re-potted are now making new roots freely and seem to greatly relish the fresh live sphagnum and new peat, &c. These may now have water supplied more freely without fear of the old roots rotting off. Look over the remainder regularly, also the Lælias, so that the best time for attention does not pass by. Catch them just as they start into a new growth, and before the new roots have got too far advanced. After re-potting give them a little extra shade for a time and use the syringe about them rather freely, which will prevent shrivelling, and an unnecessary loss of foliage, and promote renewed root action.

Odontoglossum grande will be one of the principal intermediate Orchids requiring attention this month. Hitherto they have had a good rest, being kept on the dry side since their bulbs matured. New growth has already started, and root action will soon follow. Any potting required should be done just as the roots show at the base. I find the best compost for these plants is leaf soil, surfaced over with fresh chopped sphagnum moss. Growth and root action is wonderfully vigorous, and one is also assured of good strong flower spikes. I need not say that in this mixture very little water is required, a slight moistening of the surface moss being quite sufficient.

Odontoglossum citrosmum is one of the most pleasing and delightfully scented Orchids now in flower. They are grown here in shallow pans, so that they may be suspended, the flowers are thus shown to more advantage. As soon as the spikes are off topdressing or repotting should begin, using peat and moss in equal proportions. They should not be kept long in a saturated condition, but allow them to get moderately dry before giving a fresh supply of water. Give them a fair amount of sunshine and air. Whilst in flower it is best to keep the atmosphere much drier, so that the flowers will last longer in good condition without spotting.

Insect Pests.—A sharp look-out should be kept for insects, which increase rapidly at this season, and will soon cause a lot of mischief if not kept down. As soon as traces of the pests are observed, the usual remedies should be promptly applied, as a little neglect may result in much injury being done. Cleanliness is an important adjunct to good culture.

CYMBIDIUM VIRESCENS.

A CURIOUS little Cymbidium has been in flower at Kew for some time which in its single flowered scapes clothed with sheathing bracts resembles a Maxillaria rather than the genus to which it really belongs. It is C. virescens, Lindl., which was described in 1838 (*Bot. Reg.*, xxiv., Misc., p. 37). It is a native of Japan, and was brought to Europe by Dr. Siebold, and flowered in Messrs. Rollisson's Nursery at Tooting. Dr. Lindley remarked :—"It has greenish sepals and petals, about an inch and a half long, and a pale dull yellow lip slightly blotched with dull red. I did not remark any smell. No doubt this will prove a greenhouse species." Curiously enough the plant misled even Reichenbach, who, in 1845, though knowing its Japanese habitat, described it under the name of Maxillaria Goringii (*Bot. Zeit.*, 1845, p. 334), and when afterwards he transferred it to Cymbidium, as C. Goringii, he was evidently unaware that it was Lindley's plant. Still later he enumerated the two as distinct (*Walp. Ann.* vi., p. 626), at the same time erroneously contracting Lindley's name to C. virens, in which mistake he has been followed by most later authors. There is a figure of it in the Japanese work *Somoku Zusetsu*, xviii, t. 15). It is found both in Corea and Japan, and will succeed in a cool greenhouse. Though interesting botanically, it is not by any means a showy plant, partly on account of the colour of the flowers, and partly because they are shorter than the leaves, as is also the case with some Maxillarias. There is only one other species having single-flowered scapes, which has been described rather recently, namely, C. Mackinnoni (Duthie in *Journ. Asiat. Soc. Beng.*, lxxi, p. 41), a native of the Western Himalaya, near Mussouri, growing at about 5500 feet elevation.

R. A. R.

ONCIDIUM ANTHOCRENE.

A FINE inflorescence of an Oncidium is sent by Messrs. Lager & Hurrell, Summit, New Jersey, which proves to belong to Oncidium anthocrene. The species is a native of Colombia, and was originally discovered at about 4,000 feet elevation, by Wallis, and described by Reichenbach in 1877 (*Linnæa*, xli., p. 102). Some time later it appeared in cultivation, and was figured in the *Orchid Album* (ix., t. 392). Messrs. Charlesworth & Co. also obtained it in 1889, from Antioquia, in the Cattleya Dowiana district. It is a striking thing, having a branching inflorescence and numerous flowers, which measure two inches across. Its nearest ally is O. bracteatum, Rchb. f., each of them having a strongly bracteate inflorescence, but in the present one the flowers are nearly double the size. The sepals and petals

are undulate, deep red-brown, and bearing some narrow yellow transverse bars, the latter, of course, representing the ground colour, but it is nearly obliterated by the heavy markings. The lip is pale yellow, with very small side lobes, and some brown markings on the disc. The pseudobulbs measure from three to four inches long, and have a pair of gracefully arching leaves at the apex, and a similar number at the base. It is a handsome species, and even when out of flower is a very graceful plant.

R. A. R.

ONCIDIUM LIETZEI.

A VERY pretty species of Oncidium with buff-orange flowers has just appeared in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers). It proves to be Oncidium Lietzei, a Brazilian species which flowered in the St. Petersburg Botanic Garden in 1881, and was described and figured by Regel (*Gartenflora*, 1881, p. 163, t. 1044). It belongs to the O. pubes group, but is readily distinguished by the colour of the flowers and various structural differences. What appears to be the same species was afterwards described by Reichenbach under the name of O. Hrubyanum (*Gard. Chron.*, 1883, i., p. 562), from a plant which flowered in the collection of Baron Hruby, Kolin, Bohemia, and afterwards in several other collections. It is a pretty little species, and the colour of its flowers is quite unusual. The plant afterwards figured by Regel as O. Lietzei var. aureo-maculata (*Gartenfl.*, 1888, p. 441, t. 1279) is evidently quite different, and is probably a form of O. pubes. Several species of this group are occasionally met with in cultivation, but the flowers are not large enough for them to become popular. All of them are natives of Brazil. R. A. R.

SPRING-FLOWERING DENDROBIUMS.

THE spring-flowering Dendrobiums are extremely useful decorative plants, and for some weeks past have been flowering in profusion in most Orchid collections. The species are very numerous, and of late years there has been a large accession of hybrids, so that there is a wealth of materials to select from, and some of the former are not as commonly met with as their merits deserve. One at least of the two figured on succeeding pages comes under this category, namely, D. Devonianum, and the reason probably is that it is often a difficult plant to grow satisfactorily. Mr. B. S. Williams states that the great secret is to give it plenty of water when growing, and always to bear in mind that the red spider is its desperate enemy, often attacking the leaves. This pest should be diligently searched for, and, if found, kept under by syringing the foliage every day, or even twice a day in summer.

Dendrobium Devonianum (fig. 25) was discovered in the Khasia Hills, by Gibson, when collecting for the Duke of Devonshire, and sent to Chatsworth in 1837. It flowered in the following spring, and was figured in *Paxton's Magazine of Botany* (vii., p. 169), being dedicated to the Duke of Devonshire. It is a striking species, on account of its beautifully fringed lip, which has a pair of large orange blotches on either side of the disc, and

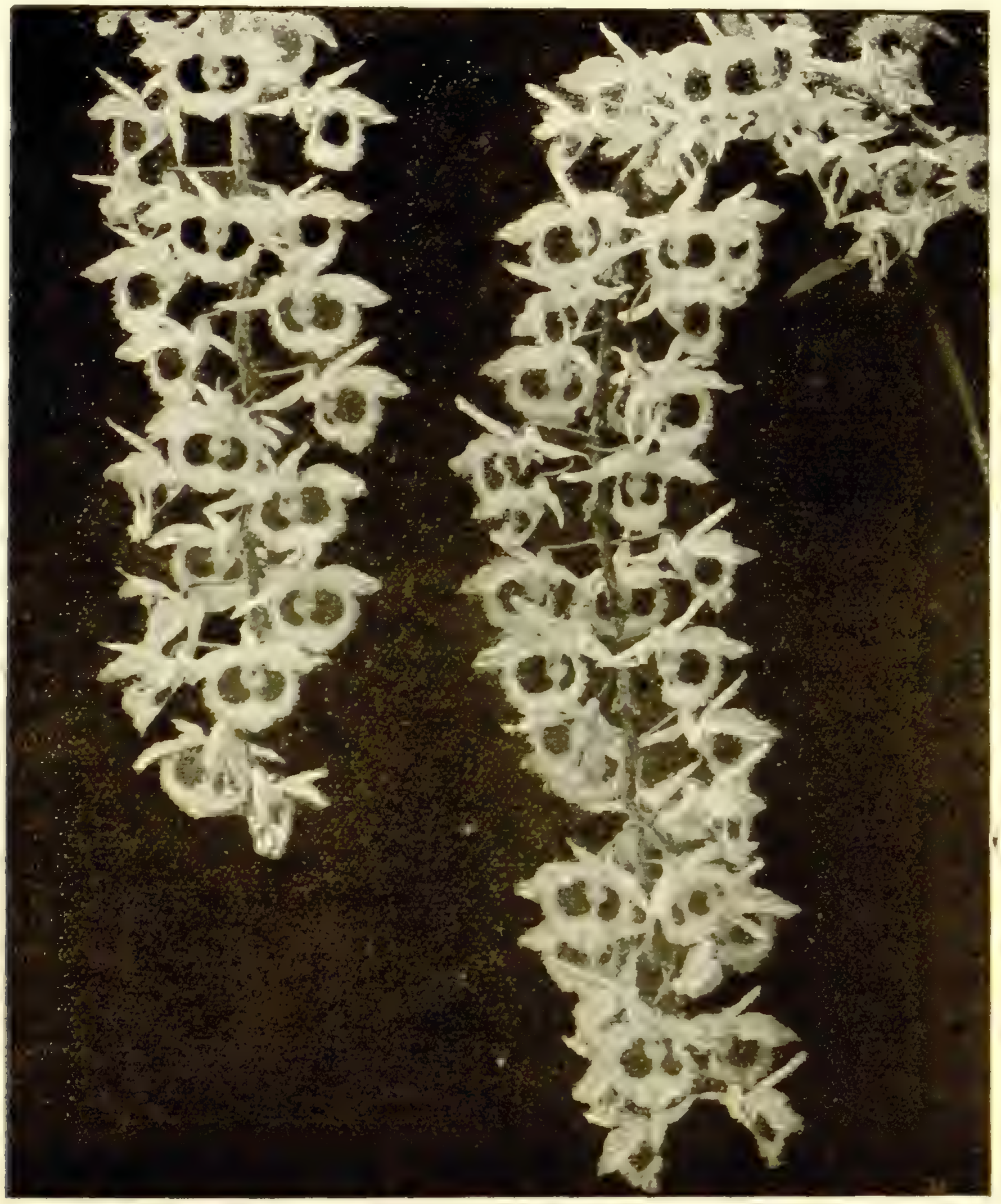

FIG. 25. DENDROBIUM DEVONIANUM.

a bright purple apex, the latter colour being also present at the apex of the petals. Its fascicles of flowers are borne at every node of the stem, which thus appears wreathed in flowers throughout their length, and as they sometimes reach a length of three to four feet the effect can easily be imagined. The plant here figured flowered in the collection of Dr. A. W. Hoisholt, of Stockton, California. The species is now known to grow also in Bhotan, the

Naga Hills, Assam, and southwards to Burmah. There is a beautiful albino of the species, known as variety candidulum, which is extremely rare.

Dendrobium Hildebrandii (fig. 26) is a comparatively recent addition to the genus, being described in 1894 (Rolfe in *Kew Bull.*, 1894, p. 198). It was discovered in the Shan States by H. H. Hildebrand, Esq., and sent to Messrs. Hugh Low & Co., of Clapton, who flowered it early in 1894. Owing to its twisted sepals and petals it bears a considerable resemblance to D. tortile, which indeed represents its affinity, but the flowers are light

FIG. 26. DENDROBIUM HILDEBRANDII.

whitish yellow instead of purple. One form, however, has a deeper yellow throat to the lip, and a pair of maroon blotches at the base, this being known as variety oculatum. It is a plant of very robust habit, and very floriferous, and Mr. Hildebrand states that it grows in magnificent huge masses, and that as many as fifteen hundred flowers have been counted on a single clump. The species has been crossed with D. nobile, D. Wardianum, and D. aureum, yielding three handsome hybrid.

THE AMATEUR'S COLLECTION.

WE have again been urged to give some notes written especially for beginners in Orchid culture and those who have only very small collections, and will endeavour to comply, though at the outset it may be remarked that it is difficult to write anything which is specially applicable to individual cases, as tastes differ, and the conditions vary so greatly.

In nine cases out of ten the probability is that beginners in Orchid culture have some house or houses devoted to ordinary plants, and wish to add a few Orchids to their collection. It may be an ordinary greenhouse, a vinery, a plant stove, or a house best suited for a fernery, or possibly all combined, in which latter case one is the more likely to find a suitable situation for any particular Orchid which strikes his fancy. Of the houses named probably the plant stove will prove the more accommodating, for it is provided with the requisite conditions in the shape of heat, moisture, shading, and ventilation, and there are many Orchids which thrive in such a structure, sometimes indeed quite as well as in a special Orchid house; the reason being that their special requirements are provided for. Cool Orchids are generally the more popular, but the attempt to introduce them into an ordinary greenhouse is not often a success, the reason being that in most cases such a house is too dry and draughty, and often insufficiently shaded. In these respects a cool fernery is better adapted to the purpose, because shade and moisture are better provided for. In fact, successful Orchid growing depends largely upon the provision of a suitable atmosphere—that is, one containing the proper amount of heat and moisture. This, of course, varies according to the season of the year, and to the class of Orchid cultivated, but it is one of the first essentials. And a suitable atmosphere depends on the proper management and use of the heating apparatus, ventilators, shading, and the supply of moisture. The structure and aspect of the house should also be considered when adapting it to Orchid culture. A lean-to house facing due south, for example, being unsuitable for cool Orchids.

When new houses are to be built for the purpose the case is much simpler, as a suitable position can be selected, and proper houses erected, in which the details have been specially arranged for Orchid culture. Some of our horticultural firms have made a speciality of this kind of house, in which the ventilators, heating apparatus, shading, &c., are all arranged on up-to-date principles. In such houses the culture of Orchids is comparatively easy, if ordinary attention is given.

The selection of a site for the house is of great importance. It should be screened from the east and north-east, as the cold dry winds from that quarter are very injurious to Orchids. If there are no buildings in the

direction mentioned a belt of shrubs will form a very useful screen. It should also be in a fairly light position, because during the dull winter period the plants should receive all the light possible, while the superabundance during the summer can be cut off by the use of suitable shading. On other sides the situation should be fairly open, and in such a quarter a span-roofed house, running approximately north and south, will probably prove the most satisfactory structure, as such a house affords the greatest variety of situations for different kinds of Orchid. We may now say something about their structure and internal arrangements.

Orchids generally do best in moderately small houses, where the plants can be brought well up to the light, and brickwork should be utilised for the sides as much as possible, as it affords better protection in cold weather than glass. Houses with partially sunk pathways are often used with great success.

TEMPERATURE.—Whatever the kind of house, the heating apparatus should be adequate to maintain the required temperature without unduly forcing the fires, and the piping should be ample. It is then not necessary to keep the water at boiling point during cold weather, which would only be injurious to the plants.

VENTILATION is a matter of great importance, as a stagnant atmosphere is injurious, but the top ventilators should be used with caution, especially during cold bright weather. The side ventilators should consist of shutters in the walls, near the hot-water pipes, and those on the leeward side should be opened a little whenever the outside temperature permits.

SHADING is absolutely necessary, and either lath-roller blinds or the various kinds of canvas mounted on rollers may be used. The former are the more durable, and may be let down on cold frosty nights as an additional protection, thereby economising fire heat, and benefitting the plants. Whitening painted on the glass is not recommended.

FLOORS.—These are best constructed of gravel or some absorbent material, with a trellis-work of wood to walk on. Or corrugated tiles may be used for the pathway. Coke is an excellent material to place under the pipes and stages, as it absorbs plenty of water, and gives a large evaporating surface. Certain ferns and shade-loving foliage plants may be grown under the stages with advantage to the Orchids.

STAGING of an open character should be provided so as to allow a free circulation of air. A solid staging, placed at least a foot below the open staging, and containing coke or fine gravel, is also very beneficial, as when damped it gives off a constant supply of moisture. The stages should bring the plants well up to the light, and a few wires should be placed on the roof on either side of the pathway to suspend baskets from. Many plants succeed best in such a position.

ORCHIDS FROM WESTONBIRT.

A MAGNIFICENT series of flowers is sent from the collection of Captain Holford, Westonbirt, Tetbury, by Mr. Alexander. There are twelve beautiful forms of Odontoglossum crispum, which must have been cut from very vigorous plants, as the size and substance of the flowers are remarkable. One of them measures just over four inches from tip to tip of the petals, which organs are over $1\frac{3}{4}$ inches across. It is a remarkably broad and well-shaped flower, and several others are equal in shape but slightly smaller. The two named forms are O. c. Iolanthe, a charming white form with several red-brown blotches on the lip, and a single one on each lateral sepal, and O. c. Argus, slightly flushed with rose, particularly on the sepals, where there are many small brown dots, and a few others on the petals. The lip is blotched as usual. The other forms include two beautiful whites with some blotches on the lip, another prettily blotched also on the sepals, a few others slightly flushed with rose, one of which bears a large blotch on each sepal and a smaller one on the petals, and, lastly, a very pretty rosy-purple form, slightly blotched with red-brown. O. Pescatorei Westonbirt var., is a remarkably fine form, measuring three inches from tip to tip of the petals, and the lip and all the segments are very broad aad round. There are four beautiful varieties of O. × Adrianæ, three of which are named. The variety Lady Wantage is remarkably fine, measuring three inches in diameter across the petals, the ground colour being light yellow, and the blotches on the segments very large; Mrs. R. Benson is even larger, and has very broad segments, the ground colour cream white, and the blotches large and deep red-brown; while Mrs. Menzies is a smaller form with white ground, very copiously blotched with purple brown; quite a study in mosaics. Lastly must be mentioned two forms of O. × Andersonianum, the Westonbirt variety having large, richly-coloured blotches on the sepals and lip. Three other fine flowers are sent. Cattleya Mendelii has the sepals and petals very prettily flushed with rose, and the front lobe of the lip brilliant purple-crimson. The size of the flower may be judged from the fact that the petals are three inches broad. Lælio-cattleya × Dora has the sepals and petals flushed with light salmon-colour, the throat of the lip deep yellow, and the front lobe a brilliant crimson edged with lilac. It is very beautiful. Lastly must be mentioned Paphiopedilum × illustre (nitens × Lathamianum), a noble flower, with brightly-coloured villosum-like petals, and the dorsal sepal with a very broad blackish purple median area, some yellowish green on either side, and a white margin three-quarters of an inch broad. The flowers are excellent in every respect, and the plants from which they were cut must have remarkably well grown. We hope some day to see this fine collection.

ORCHIDS IN SEASON.

A BEAUTIFUL three-flowered inflorescence of Lælio-cattleya × Dominiana is sent from the collection of Sir James Miller, Bart., Manderston, Duns, N.B., by Mr. Hamilton. The flower is of excellent shape, and the sepals and petals are bright rosy purple, while the lip is of the richest purple-crimson imaginable. The parents, it is now scarcely necessary to add, are Lælia purpurata and Cattleya Dowiana, though, curiously enough, the parentage of the original form was long in doubt, owing to the loose way in which the records were kept in the early days of hybridisation.

Several beautiful Orchids are sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell. First may be mentioned two spikes of the brilliant Saccolabium ampullaceum, and Mr. Smith remarks that there are eight others still on the plant, which must have presented a fine sight. This species is certainly one of the gems of the genus when well-grown, as its compact habit and dense erect spikes of bright rose-purple flowers render it particularly effective. Cymbidium Devonianum is also flowering well, and a good spike is enclosed as a sample, together with a good spike of the beautiful and very fragrant Vanda suavis. Cattleya Mendelii selbornensis is a beautiful white form, with a small zone of light purple in front of the yellow disc. Lastly must be mentioned a photograph showing a very fine specimen of Miltonia flavescens, bearing no less than thirteen spikes and 113 flowers; an excellent example of good culture.

A very beautiful Odontoglossum is sent from the collection of John S. Moss, Esq., Wintershill Hall, Bishops Waltham, whose identity is somewhat uncertain. Mr. Moss remarks:—"I should think myself it is O. × Adrianæ crossed with × Ruckerianum or × Wilckeanum," and it is just one of those anomalous forms which makes one wish that our hybridists would turn their attention to the question. It bears a general resemblance to O. × Adrianæ throughout, and may be a fine form of it, but the flowers measure three inches across their broadest diameter. All the segments are prettily crisped, and tinged with light rose, with numerous small red spots on the sepals and lip, and a much smaller number on the petals. O. × Adrianæ recrossed with O. crispum might yield something of the kind, but it may be only a fine form of the latter. In any case it is very beautiful, and should be taken care of.

Two pretty forms of Cattleya Mendelii are sent from the collection of J. H. Craven, Esq., Keighley, Yorks, by Mr. Corney. One is a pretty light blush variety, having a white lip with a light yellow disc. The other is a light rose flower, very prettily streaked with rose, especially on the petals, and the front of the lip darker. A good flower of Paphiopedilum hirsutissimum is also sent.

THE HYBRIDIST.

LYCASTE × GROGANII.—We have again received flowers of a very pretty yellow-flowered Lycaste from the collection of J. H. Grogan, Esq., Slaney Park, Baltinglass, Co. Wicklow (gr. Mr. W. F. Oliver), which was obtained by intercrossing L. aromatica and L. Deppei, and has flowered on two previous occasions. It is fairly intermediate in shape, being much larger than L. aromatica, which, however, it most resembles in colour, and in the shape of the sac of the lip, though the front lobe of the lip is longer than in that species. There is no trace of the L. Deppei spots, though there is a tinge of green about the ground colour. It is a handsome and free-flowering hybrid, and we are unable to identify it with any yellow-flowered kind yet described, though at least one of these is suspected to be of hybrid origin. It has been crossed with L. Skinneri, and the seed is now sown both of this and of the reverse cross.

LÆLIO-CATTLEYA × ROCKSAND.—This is a very pretty Lælio-cattleya sent from the collection of Sir James Miller, Bart., Manderston, Duns, N.B., by Mr. Hamilton. It is said to have been obtained from Messrs. Sander and Sons, of Bruges, and to have been raised from Cattleya × Schrœderæ × Lælia grandis, and it shows the influence of the last rare species very clearly in the somewhat undulate petals, and some purple veining on the lip. The prevailing colour is a very light rosy purple, with a darker blotch on the front of the lip. In its broader segments it approaches the Cattleya parent in shape, and in the pseudobulbs it is also said to resemble this species. The plant is hardly fully developed at present.

CHLORÆA INCISA.

ABOUT a year ago we gave a note respecting three species of Chloræa which were collected by H. J. Elwes, Esq., during his recent trip to Chili, and flowered in the Kew collection. It is interesting to note that Mr. Elwes has now flowered an additional species, namely C. incisa, of which dried specimens were also collected by him. The species was described and figured nearly seventy years ago (*Pæpp. & Endl. Nov. Gen. et Sp.*, i., p. 31, t. 54), but does not seem to have been previously cultivated. It is a striking plant, nearly allied to C. crispa, but has smaller flowers, which are white, marked with green. The plant grows from two to three feet high, and produces scapes of eight or nine flowers. The sepals are oblong, obtuse, 1¼ inches long, and the lateral pair bear on their face near the apex a series of green appendages, rather smaller than those found on the lip. The petals are broader, an inch long, and are studded with rows of green papillæ from middle to base. The lip is broadly ovate, obtuse, and obscurely trilobed,

with a toothed or fimbriate margin, while nearly the whole surface is covered with long filiform appendages tipped with green at the apex. Just at the base of the lip, however, these appendages are replaced by seven narrow slightly undulate keels, the edge alone being green. It is a very striking member of a genus too seldom seen in gardens. It may be added that a monograph of the genus has just been completed by Dr. Kranzlin, who enumerates over eighty species.

It is interesting to note that two plants of the handsome Chloræa virescens have again flowered at Kew, producing three spikes of flowers. They have been grown with other terrerstrial species in a cool bulb pit, and seem to succeed well under the usual treatment given to such plants. The very fleshy roots are remarkable.

R. A. ROLFE.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during May, on the 3rd and 17th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Great Annual Flower Show will be held in the Middle Temple Gardens, Thames Embankment, on Tuesday, May 31st, and two following days. Cups and Medals will be awarded, as usual, according to merit. The Orchid Committee will meet at 11.30 a.m. on the opening day.

The next meeting of the Manchester and North of England Orchid Society will be held on Friday, May 13th, on which date the Annual General Meeting will also be held. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

A remarkable form of Odontoglossum × loochristiense is sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. The spike is 3½ feet long and bears thirteen flowers, which are much spotted on the petals. Curiously enough these spots increase in number and decrease in size upwards, being very numerous on the upper flowers. It may be called var. punctatissimum. O. crispum Annie is also enclosed, now very finely developed.

A flower of the charming little Cypripedium × Wellesleyanum, to which an Award of Merit was given by the R.H.S. on April 19th, is sent from the collection of Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins). In colour it most resembles C. concolor, but the segments are unusually broad, hence it has been suspected to be a natural hybrid between that species and C. bellatulum.

ORCHID PORTRAITS.

CATTLEYA SCHRŒDERÆ.—*Journ. Hort.*, 1904, i, pp. 356, 357, with fig.

CYNORCHIS PURPURASCENS.—*Gard. Chron.*, 1904, i, p. 227, fig. 95.

CYPRIPEDIUM × EURYADES EXCELLENS.—*Gard. Mag.*, 1904, p. 255, with fig.

DENDROBIUM × MELANODISCUS VAR. GLORIOSUM.—*Gard. Chron.*, 1904, i, p. 219, fig. 92.

DENDROBIUM × SYBIL.—*Gard. World*, 1904, p. 319, with fig.

DENDROBIUM × THWAITESIÆ.—*Gard. Mag.*, 1904, p. 273, with fig. VEITCH'S VAR.—*Gard. Chron.*, 1904, i, p. 274, fig. 118.

DENDROBIUM THYRSIFLORUM.—*Journ. Hort.*, 1904, i, p. 313, with fig.

DENDROBIUM WARDIANUM.—*Garden*, 1904, i, p. 287, with fig.

DIPODIUM PICTUM, Rchb. f.—*Bot. Mag.*, t. 7951.

LÆLIO-CATTLEYA × DIGBYANO-TRIANÆ..—*Journ. Hort.*, 1904, i, pp. 290, 291, with fig.

ODONTOGLOSSUM × ARDENTISSIMUM COOKSONÆ.—*Gard. Chron.*, 1904, i, p. 260, fig. 114.

ODONTOGLOSSUM CIRRHOSUM PITT'S VAR.—*Garden*, 1904, i, p. 275, with fig.

ODONTOGLOSSUM CRISPUM KINLESIDEANUM.—*Gard. Mag.*, 1904, p. 308, with fig.

ODONTOGLOSSUM PESCATOREI KATHLEEN.—*Gard. Chron.*, 1904, i, p. 228, fig. 96.

PHAIUS HUMBLOTII ALBUS.—*Gard. World*, 1904, pp. 359, 361, with fig.

VANDA AMESIANA.—*Journ. Hort.*, 1904, i, pp. 313, 315, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

A.D. You are right in supposing that the two Odontoglossums which turned up among imported O. crispum are forms of O. × Andersonianum. No. 1 is unusual in its broad short lip, and appears to be undeveloped, and 2 is a good example of the variety Ruckerianum. They should be taken care of.

J.G. Cockroaches are chiefly troublesome in the Warm house, but should be kept down at all costs. Jars containing treacle and beer often capture many, and what we believe to be an excellent remedy is advertised in our pages.

F.C. We think this form closely resembles Cattleya Mendelii leucochilum.

W.B. **Oncidium graminifolium and Pleurothallis longissima.**

R.N.H. Oncidium leucochilum, one of the prettiest species in the genus, and worth taking care of.

I.B. **Stelis tristyla and Epidendrum ionosmum.**

Photographs received with thanks.—J.S., De B.C., T.W., J.S., L. & H.

E.B. **We hope to receive the photograph.**

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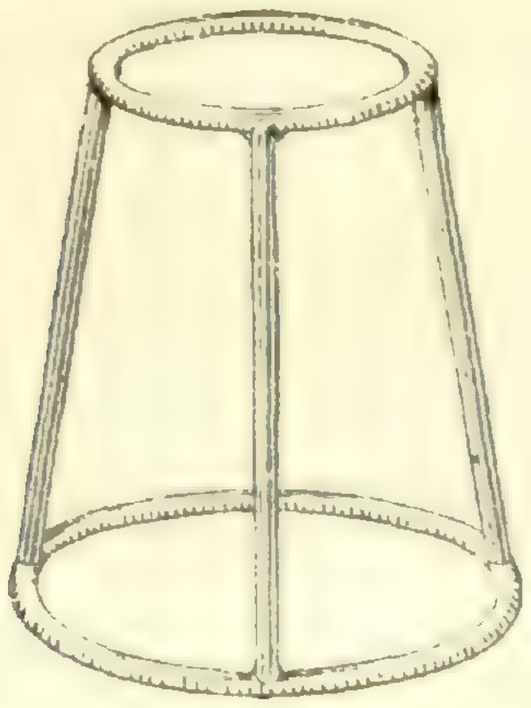

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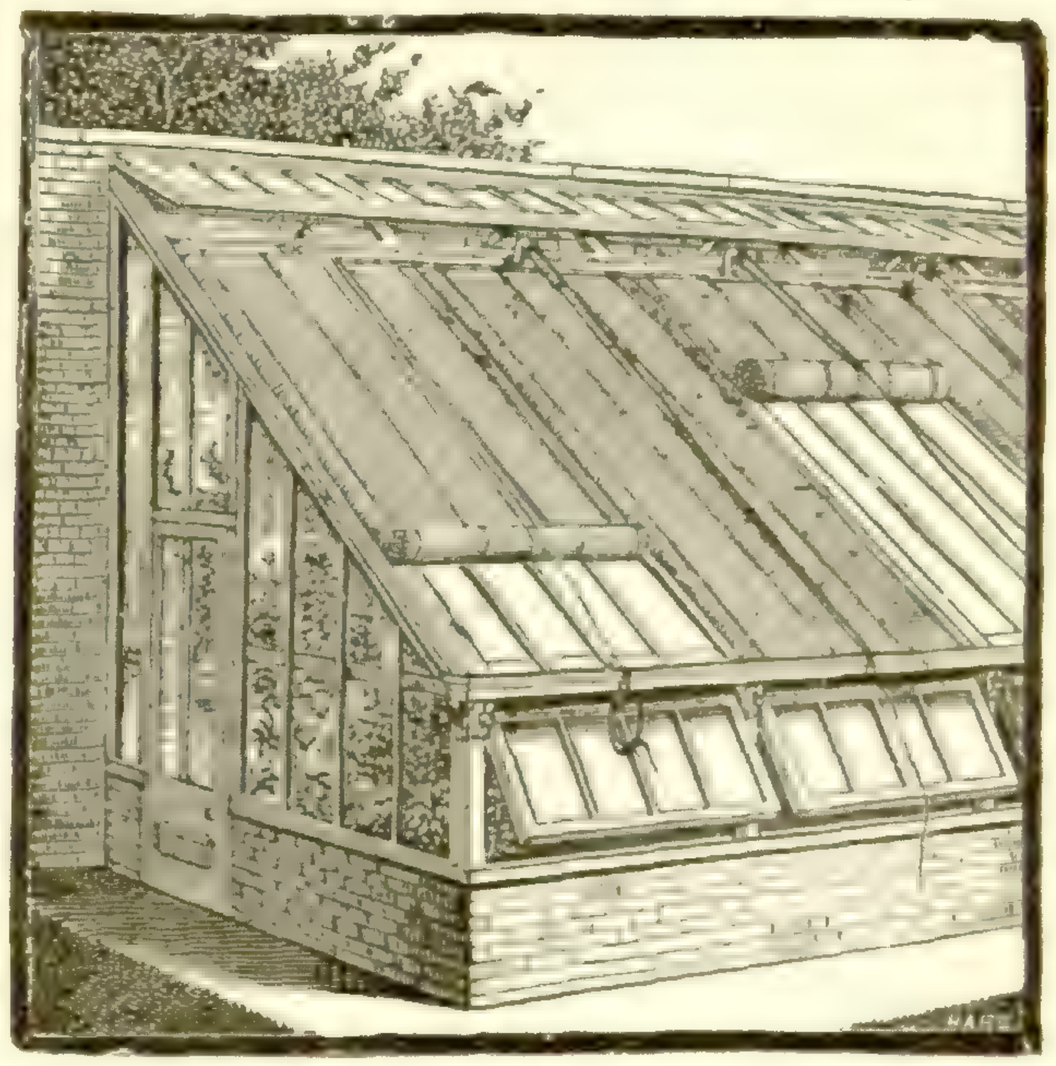

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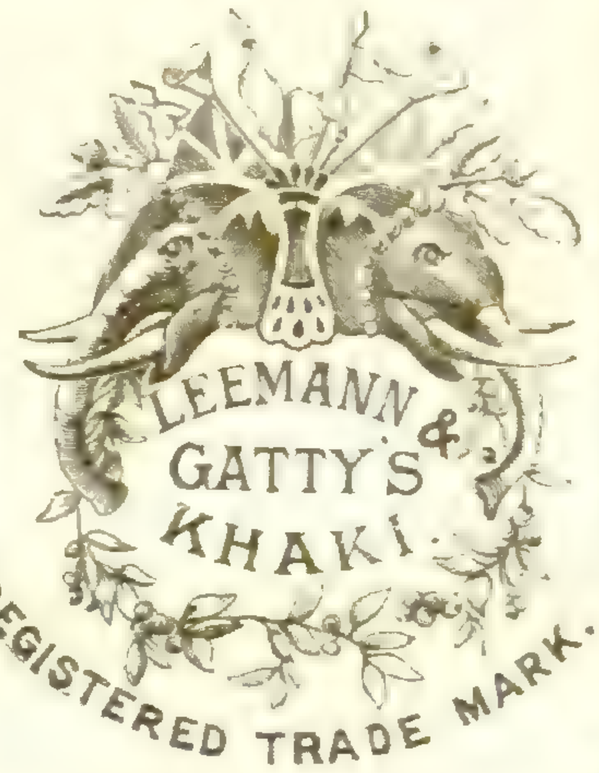

NOTICE TO READERS OF

THE

ORCHID REVIEW

A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

Full details appeared in our March issue.

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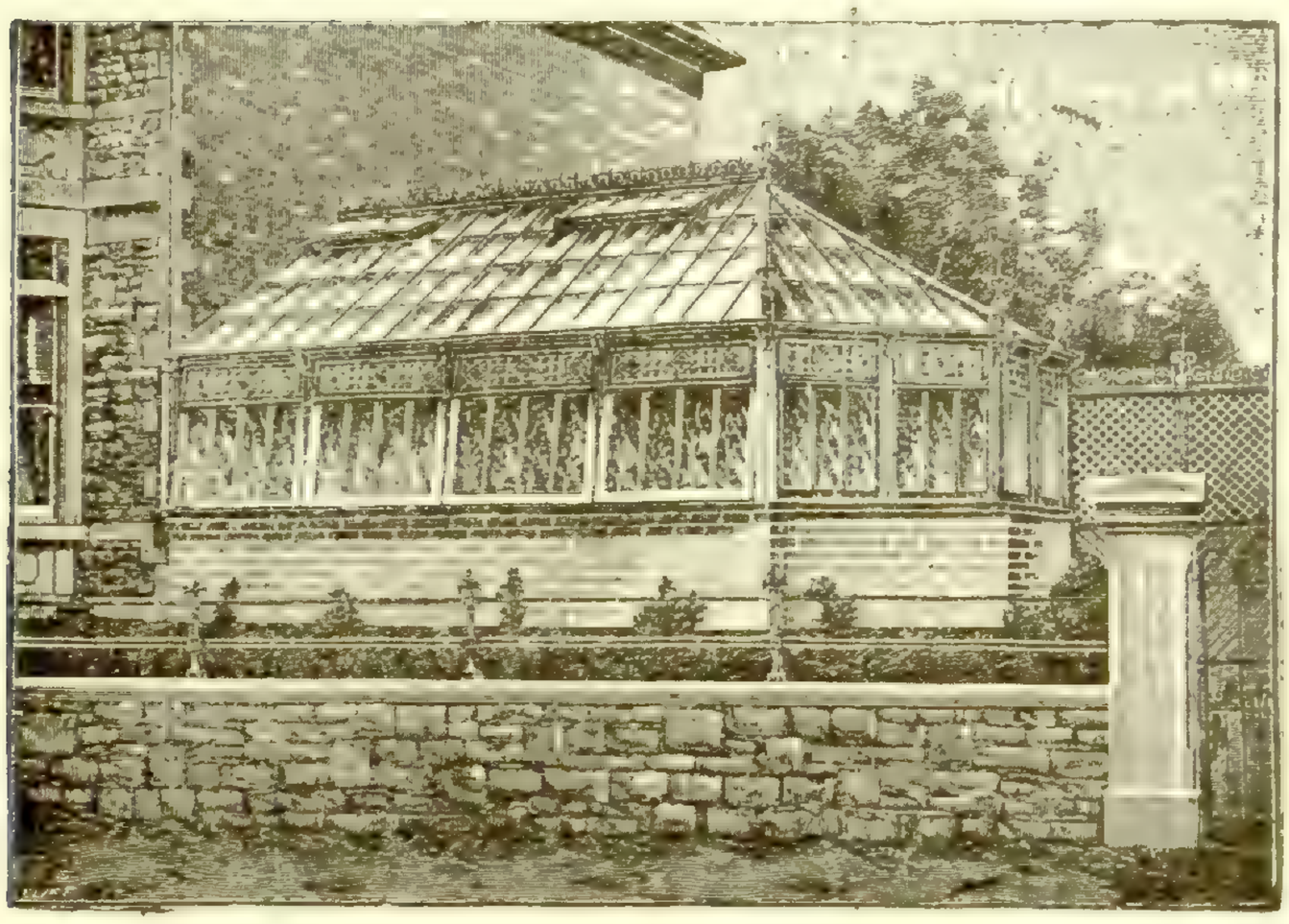

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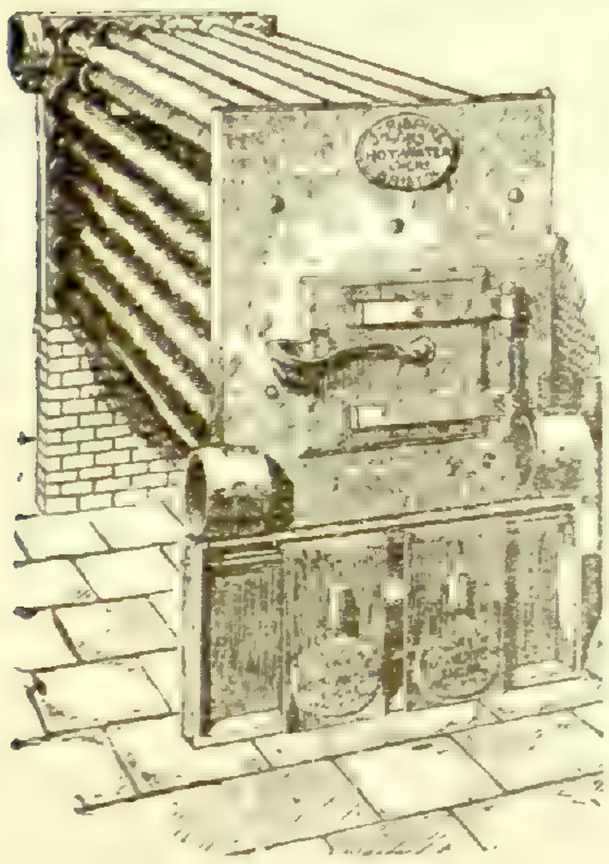

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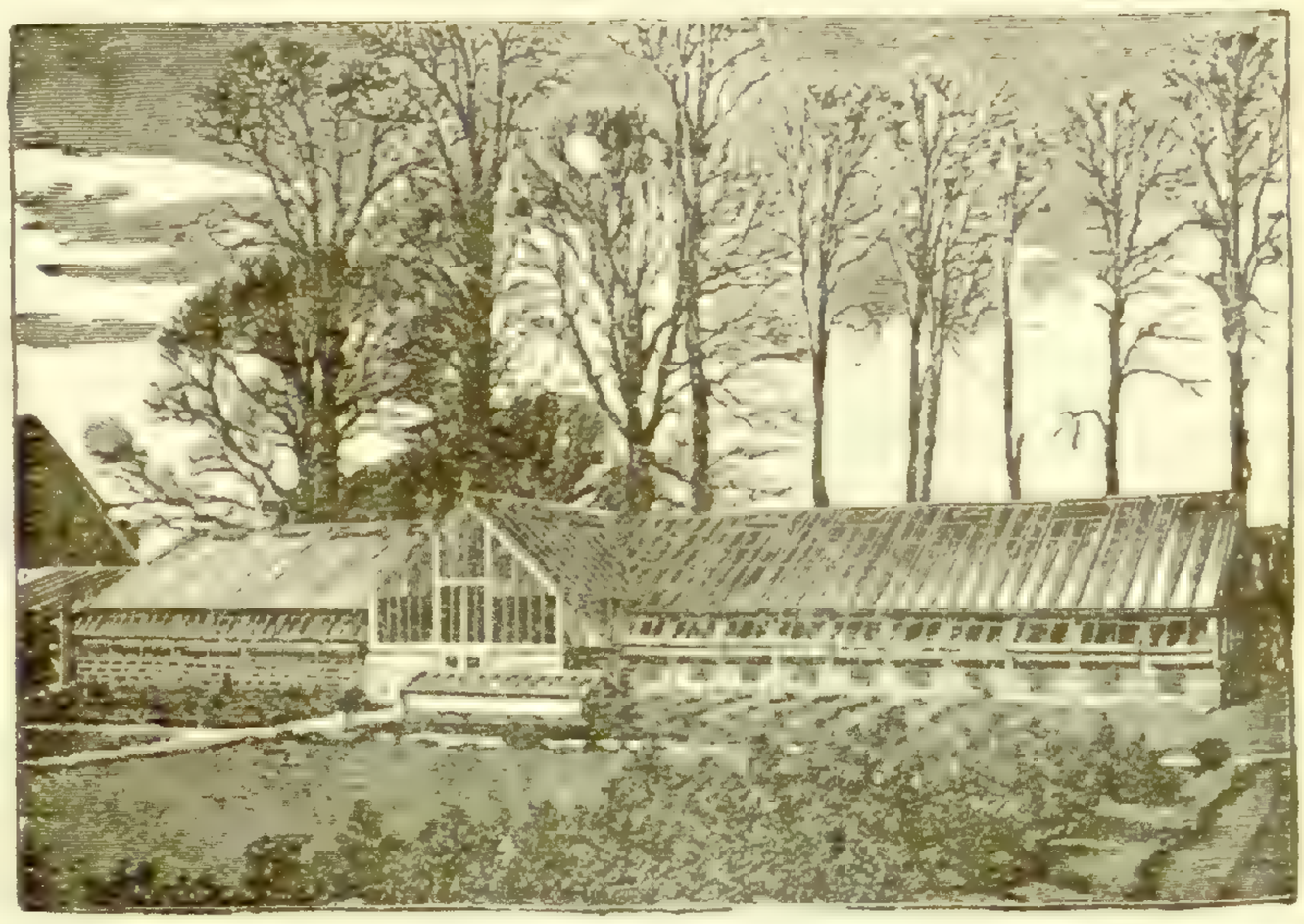

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An Illustrated Monthly Journal of Orchidology.

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VOL. XII.] *JUNE*, 1904. [No. 138.

DIES ORCHIDIANI.

AT last the remarkable Cymbidium rhodochilum has flowered in another collection, a beautiful specimen being exhibited by Dr. Hodgkinson, The Grange, Wilmslow, at the meeting of the Manchester and North of England Orchid Society, held on May 13th, when it received a First-class Certificate. I believe this is the first time it has been exhibited. It has twice flowered at Kew, but I have not heard of its flowering elsewhere; though a few other plants are known to be in existence. "I wonder what use the hybridist will be able to make of it." I made this remark when commenting on its appearance two years ago (vol. x., p. 192), and it will be interesting to hear the results of any experiments that have been made. It is a remarkable plant, and quite unlike any other cultivated species, as may be inferred from its name, which was very happily chosen. Its history has been given in these pages (vol. ix., p. 10; x., p. 184), and those who can refer to the *Botanical Magazine* will find it well depicted at plates 7932, 7933.

At the R.H.S. meeting held on May 17th two beautiful forms of Odontoglossum crispum were exhibited under the names of O. c. xanthotes Burford var., and O. c. x. Snow Queen. A short time previously appeared O. c. x. Cooksoniæ, and two years earlier O. c. x. Gratrix's var., while in 1899 we had O. c. x. Brooman White's var. The varietal name xanthotes was given over ten years ago to distinguish a particular form in which the spots were yellow, and it is said that all the later forms differ from it, yet all have yellow spots. But I would ask whether such sesquipedalian names are really necessary? If the forms are distinct from O. c. xanthotes, and must have distinguishing varietal names, I think the word xanthotes should be dropped out. We are getting too many long names, and there will soon be neither time nor space to record them.

The Temple Show furnishes another remarkable example of progress in hybridisation, and once more from the establishment of M. Ch. Vuylsteke, of Loochristi. This exhibitor sent a very handsome hybrid between Odontoglossum Pescatorei and Cochlioda Nœtzliana, in which, curiously enough, the shape of the Odontoglossum was largely reproduced, but the colour was a remarkable combination of shades of rose and salmon red, with some cream colour on the lip. It was the sensation of the show, and received a First-class Certificate, to which the Council afterwards added the rare honour of a Silver-gilt Lindley Medal—"for progress," I think it might be defined. In any case it was highly appropriate, for the award was to be given preferentially for "excellence in cultivation," and it is probably this more than anything else which has enabled M. Vuylsteke to overcome the difficulties of bringing seedling Odontoglossums through their early stages that has contributed so much to his success. I am forgetting the name given, which was Odontioda × Vuylstekeæ, the useful plan of compounding a generic name from that of its two parents having been followed.

M. Vuylsteke had a few other seedling Odontoglossums, two of which received Awards of Merit, and two others could not have been overlooked a very few years ago. It is rather curious that one of the reputed parents should itself have been the sensation of the Temple Show in 1902, from which it may be inferred that the plant had flowered previously, and it is rather curious that so remarkable a hybrid had not been heard of previously. I allude to O. × ardentissimum, as it now seems to be called, though according to the records it is a variety of O. × armainvillierense.

A few other novelties were scattered about, and I could not help thinking what a pity it was that such plants could not be staged separately. As it was, it was almost impossible not to overlook some of them, especially in view of the fact that the tents were crowded, in spite of a soaking wet day.

As to the display of Orchids generally it was remarkably fine, a condition of things which we now associate with the Temple Show as a matter of course. One can say little that is new about it, for the conditions remain much the same year by year, unless the weather varies them somewhat. It was, however, a pleasant surprise to see again a magnificent group from the veteran exhibitor, Baron Schröder. But I have no time for further notes, as the Show opened on the last day of the month, and there is only time for a hasty look round.

ARGUS.

CYMBIDIUM PARISHII VAR. SANDERÆ.

AT the Royal Horticultural Society's meeting held on May 17th last a handsome Cymbidium was exhibited by Messrs. Sander and Sons, St. Albans, under the name of Cymbidium Sanderæ, n. sp., to which the Orchid Committee unanimously awarded a First-class Certificate. On being submitted to Kew I instantly recognised a form of the rare Cymbidium Parishii, Rchb. f., which seems to have been completely lost sight of for some years, and indeed never was common in cultivation. It was originally described in 1874 (Rchb. f. in *Trans. Linn. Soc.* xxx., p. 144), and first flowered in cultivation four years later (*Gard. Chron.*, 1878, ii., p. 74). Its early history was given by its discoverer, the Rev. C. S. Parish, as follows :—

"This was one of my earliest discoveries, having been found by me during my long journey in the distant jungles in 1859. On the same occasion I discovered Dendrobium crassinode and several other good things, but I was so bewildered then at the number of novelties of all kinds that I did not know what to choose, as I could not carry everything. I gathered then a fair quantity of Cymbidium Parishii and of D. crassinode; I sent them, with many other valuable things, to Mr. Low, the father, with one box meant for Kew; but all (six large cases full!) were sunk in the Ganges. It was a cruel disappointment, as it was my first collection, a most valuable one; many of the plants I have never met with again. The single plants kept by me to grow died. Hence I lost sight of these two plants for many years."

Other plants of the Cymbidium, however, appear to have been subsequently obtained, for there is a dried specimen at Kew, and on the ticket is written—"Flowered in my garden in 1867 or 8," and also a note that plants were sent to Kew and to Mr. Low. In June, 1878, it flowered in Europe for the first time, in the collections of W. Leech, Esq., Fallowfield, Manchester; J. Day, Esq., of Tottenham; and with Mr. B. S. Williams. The Fallowfield plant, according to Mr. Swan, produced two spikes, and he added: "I may say that it is a most beautiful thing, fully answering to the description I had with it; and that it succeeds well in the Cattleya house, giving it in the growing season very copious supplies of water." Mr. Day made an excellent painting of it, and wrote as follows:—"This lovely Cymbidium is at last in flower, and for the first time in Europe. I bought the plant of Messrs. Hugh Low and Co. in May, 1870, being part of the private collection made in Burmah by the Rev. Mr. Parish. He said it was a fine thing, superior even to C. eburneum, which as regards the colours of the lip it certainly is. The plant has been strong enough to flower for three or four years, and I have been disappointed every spring

until now; but it is worth waiting for." Mr. Day's plant is said to have been purchased by Mr. B. S. Williams for 100 guineas, and when it flowered again was figured in the *Orchid Album*, ii., t. 25.

In 1893 it was made a variety of Cymbidium eburneum (*Veitch Man. Orch.*, ix., p. 15), but by this time it was little more than a tradition in gardens, and it is doubtful whether the original plants now exist.

The re-appearance of the species in cultivation is interesting, though it comes from a new and distinct locality, and the plant exhibited has the blotches on the lip more numerous than in the original ones, and partially confluent. The plant exhibited bore an inflorescence of four flowers, the colour being ivory white, with a pair of orange-coloured crests on the lip, a yellow area in front, and numerous large purple blotches nearer the margin. It is a very handsome species, and it is to be hoped that this time it will not be as quickly lost sight of. R. A. ROLFE.

LEAF MOULD FOR ORCHIDS.

WHEN writing on the above subject during the long winter evenings, that discussion of the same might be made before the New York Agricultural Society, it did not occur to me that such wide publicity would ensue as to be reprinted in the *Orchid Review*, or that the same would be favoured with an analysis by "Argus." In the light of these recent developments a little further light may perhaps be necessary to help define the position taken in writing on this subject.

It should first be said that the remarks were made specially for cultivators here in the United States, and cannot apply in British gardens with proper or equal facility. The reason is plain, probably nine-tenths of all the Orchids grown here are watered with the hose-pipe; skilled labour is very scarce, and, when found, is costly, so that in most places where Orchids are cultivated watering is done largely in a haphazard way, with no evil results if Osmunda fibre is used; whereas if we had to use the water pot with the great amount of circumspection so ably depicted by Mr. J. Wilson Potter in his remarks at pp. 106-111, we should never get the work done, and in winter, when the *interiors* of glass roofs are often coated every night for weeks with a coating of ice, which sometimes remains there all day, the amount of drip which is inevitable with even the best construction would be fatal to all plants that were unfortunate enough to be beneath it.

We found that when our collection of O. crispum were in leaf mould in a north house they did not need water all winter, neither did they make any growth, but since removing them to a house where the winter sun is available, watering about once a week, using the Cookson formula always in the water, the miserable scraps of two years ago are fine specimens now.

Many are the spikes that measure a yard in length, most bulbs produce two spikes, some three; even from the apex of the bulb sometimes we get a spike, and with this perfect sunning or maturation even the smallest bulbs the size of a hazel nut attempt to bloom. The majority of our plants are in five and six inch pots; when repotting these will have to go into seven and eight inch pans, for this fibre being so indestructible and so permeated with roots, one cannot remove a particle of it except, perhaps, at the side where the old bulbs are. This may sound like "Yankee bluff," but it is not "bluff," neither am I a "Yankee," but was probably the first one to use Polypodium fibre over twenty years ago, when living in Ireland, where one could tear off great mats of it from the trees as it luxuriated in that damp climate.

There is a very clever cultivator of Orchids in England, an example of whose skill was depicted in *The Orchid Review*, vol. x. p. 201, a plant of O. crispum grown in leaf mould. This illustration induced me to try the leaf mould, and now, in the *Gardener's Chronicle* April 2, 1904, p. 212, we are told by W.H.W.: "The Odontoglossums in another House were in fine condition. The plants are grown in a mixture of polypodium fibre and sphagnum moss, in fact, the majority of the plants at Westonbirt are being repotted into this mixture in preference to the Belgium leaf soil."

During the past month a collection of 300 Odontoglossums have been acquired. The plants were in every conceiveable material from Belgian leaf-soil, sphagnum, English peat, and Osmunda root, with various combinations of these materials. The plants having the most live roots were in the Osmunda fibre, and it was noted also that the English peat and moss was next best. An excellent opportunity to judge was afforded, as each plant was carefully shaken out and repotted in our own way.

I would like to make one comment on "Argus'" criticism at p. 99:—"The one point that is clear to me after a perusal of the article is that the 'compost' must be of the right mechanical composition, and that it must contain the necessary food. How the food is to be got there is a matter of secondary importance." Now, all will agree that the "mechanical composition," that is, a material not liable to become sour and inert, is what we want, but that the matter of how to get the food to the plants is of secondary import few will admit, although it is true that without the first the other is unattainable, but given an open, well aerated material, and the application of some plant food *in solution* at each watering—for all plant foods must be soluble before they become available—success is assured with the Epiphytal genera, such as Cattleyas and Odontoglossums. I wish it were possible for some of your readers to see our seedling Cattleyas and Lælias flourishing in half barrels—there were no pots large enough made. How would leaf-mould serve in a mass of a bushel or more? Yet we water **these plants in tubs every week with the hose.**

In conclusion let me presume to compliment Mr. Potter on his able exposition of the use of leaf soil, and the possible abuse of same, it seems to me this is the best and most instructive article yet written on this subject, which is of vital interest to all cultivators of Orchids. E. O. ORPET.

South Lancaster, Mass., U.S.A.

The following note from *American Gardening* (p. 321) is interesting as showing that Orchids can be successfully grown in leaf-mould in America. It is accompanied by an illustration reproduced from a photograph.

"Mr. Rothwell's gardener, Mr. Johansson, exhibited a well-flowered Odontoglossum Pescatorei, carrying a spike with 45 flowers, at a meeting of the Boston Gardeners' and Florists' Club on April 20th. The plant was grown in a 4-inch pot, grown in leaf mould for two years, surfaced with sphagnum moss. One crock was used for drainage. For comparison a plant of the same variety grown in fern fibre was shown. This carried only six flowers, although the bulb was equally as large as the one grown in leaf mould. It, however, had better roots, and possibly a year hence conditions may be reversed."

The plant showed excellent culture, and is very interesting at this particular time when such diverse views are expressed on this subject. Mr Johansson stated that the plant had not been fed at all.

W. N. CRAIG.

ORCHIDS AT KEW.

Hand-List of Orchids cultivated in the Royal Botanical Gardens, Kew. Second edition. 12mo, pp. 229.

THE collection of Orchids at Kew is well known to be a thoroughly representative one, and a glance through the second edition of the above-named list, which has just appeared, will furnish a better idea of its character than any number of statistics. In the preface, however, we are told that the collection now contains 220 genera and 1850 species including well-marked hybrids.

The arrangement is alphabetical, and includes the name, authority, native country, and, when possible, a reference to a published figure; to give an example:—"ADA AURANTIACA, *Lindl.* Columbia. Bot. Mag. t. 5435." It occupies 229 pages, but is printed on one side of the paper only.

The re-construction of the houses is thus alluded to in the preface to the second edition:—"The Kew collection has much improved in health since the re-construction in 1898 of the houses (Nos. 13 and 14) accessible to the public. These were originally erected in 1868, and were 13 feet high. They have now been reduced to nine feet. This has the double advantage of bringing the plants more closely to the light as well as to the

eyes of visitors. The houses have also been divided into four compartments, the conditions of which vary in regard to temperature and atmospheric moisture. In 1901 a small pit was adapted for the cultivation of Dendrobiums."

A few changes in nomenclature are alluded to, "the most important being the separation of species formerly included under Cattleya labiata, and the breaking up of the genus Cypripedium." The result of this is that about forty species of Cattleya are enumerated, while the Tropical Asian Cypripediums are transferred to Paphiopedilum, and the Tropical American to Phragmopedilum. The tall, reed-like plants to which the name Selenipedium properly belongs are not in cultivation.

The collection of Masdevallias is remarkably rich, over eighty species being enumerated, and several hybrids; while of botanical Orchids generally it may be said that their name is legion.

The work is sold at the Royal Gardens, Kew, price 8d., or may be had from the Curator, Mr. W. Watson, post free, 10d.

ORCHIDS FROM WALTON GRANGE.

A NUMBER of most interesting Orchids are sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. There are flowers of ten different seedlings of Odontoglossum Pescatorei, for such they must be called, though they are the result of a supposed cross with O. cirrhosum, which, however, we think must have been ineffective, for we cannot find a trace of cirrhosum influence anywhere. The shape is typical Pescatorei, but there is a considerable variation in size. The colour also varies somewhat, some forms being tinged with rose, chiefly on the sepals, and others quite white, while some have a few purple spots, and others are quite unspotted. Four of them have branched inflorescences, and one bears as many as twenty-two flowers. Mr. Stevens remarks that some of them have been out at least three months.

Several beautiful Dendrobiums are also sent, these including D. nobile nobilius, D. n. Sanderianum, with smaller very dark flowers, D. n. pulcherrimum, a large D. n. Heathii, D. n. Ashworthiæ, a beautiful white form with purple tips to the segments, and the chaste D. n. album, smaller than D. n. virginale. The others are D. × Ainsworthii Leechianum, the fine light rose D. × A. Thompson's var., the natural hybrid D. × Pitcherianum, D. × Backhousei, now believed to have originated from the same cross as D. × Wiganiæ, from which it can hardly be distinguished, and a very beautiful form of D. × Rubens, obtained by crossing D. × Ainsworthii splendidissimum with D. nobile nobilius. It has very broad rosy segments and a well-shaped lip.

ODONTOGLOSSUMS FROM ROSEFIELD.

THE annexed figures represent two handsome Odontoglossums from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), which are reproduced from photographs kindly sent by Mr. Crawshay. Both have been exhibited at meetings of the Royal Horticultural Society. The photos were taken by Messrs. Emberson & Sons, Cheapside.

O. × WALTONENSE ROSEFIELDIENSE (fig. 27) is a handsome hybrid, which was raised in the collection, from O. crispum ♀ and O. polyxanthum ♂, and was exhibited at a meeting of the R.H.S. on March 8th

FIG. 27. O. × WALTONENSE ROSEFIELDIENSE.

last, and again a fortnight later, when it received an Award of Merit, as recorded at pp. 115, 117. It differs from the type, which was described and figured at page 49 of our last volume, in having the sepals distinctly blotched with brown, as well as the lip, in which respect it shows more of the influence of the pollen parent. There are also some differences in shape. The ground colour is light canary-yellow, with the blotches brown. It is a very distinct and handsome hybrid, and one which cannot occur in a wild state, owing to the fact that the parent species grow in quite different districts.

O. CRISPUM DE BARRI (Fig. 28) is a handsome form of this popular species, which was exhibited, together with the preceding, at the R.H.S. meeting on March 8th. As the illustration shows, it is a fine form of good shape, bearing a cluster of blotches on the centre of each segment. The ground colour is suffused with light rose, much deeper on the back of the flowers, and the blotches are reddish purple. The sepals and petals are very broad, and prettily undulate, giving the flower that round appearance which is so much appreciated by connoisseurs, and the blotches have a curious tendency to be divided more or less completely by a longitudinal

FIG. 28. O. CRISPUM DE BARRI.

line. It is curious that among the multitude of blotched crispums which have appeared, scarcely any two are exactly alike in the arrangement of the markings, in consequence of which a very large number of individual forms have received distinctive varietal names. It has long been a debated point whether some of these forms may not have hybrid blood in them, and it is to be hoped that some of the secondary hybrids which are now being raised will throw some light on this question. It would be a very interesting matter to have this point cleared up.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Drill Hall, Buckingham Gate, Westminster, on May 3rd, when there was a very fine display of Orchids, and both plants and visitors were uncomfortably crowded.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Chapman), staged a choice group, which gained a Silver-gilt Flora Medal. It contained a beautiful series of hybrid Phaius, one form of P. × Phœbe being particularly handsome; Cypripedium Lawrenceanum Hyeanum, a seedling raised in the collection and very robust, Cattleya × oakwoodiensis (C. × Wm. Murray × Mendelii), a very handsome hybrid, C. × Jupiter Oakwood var., and some fine forms of Odontoglossum crispum, including O. c. Norman, O. c. Sibyl, O. c. Chapmanii, O. c. xanthotes Cooksonæ, and O. c. Olive, the latter receiving an Award of Merit. It is of good shape and very richly coloured, the greater part of each segment being taken up with reddish claret blotches, and strongly suffused with purple behind.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), also gained a Silver Flora Medal for a fine group, consisting principally of Odontoglossums, together with two fine specimens of Oncidium phymatochilum, O. leucochilum, O. concolor, Vanda Denisoniana with two racemes, Cattleya intermedia Parthenia, Anguloa uniflora, the interesting Bulbophyllum barbigerum, and some showy Cattleyas and Cypripediums. Noteworthy among the Odontoglossums were O. × Wilckeanum Pittiæ, shown in superb condition, and bearing a raceme of sixteen enormous flowers. A Cultural Commendation was deservedly awarded. There were also many good forms of O. crispum, a richly-coloured O. maculatum, and others.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitelegge), staged an excellent group, which gained a Silver Flora Medal. It contained some finely grown Lycaste Skinneri, L. × Balliæ with eight flowers, the interesting L. gigantea, Cymbidium Lowianum concolor, Oncidium Marshallianum, Cattleya Lawrenceana with twelve flowers, C. intermedia alba, some good C. Mendelii and C. Schrœderæ, the chaste C. S. alba bearing a four-flowered spike, Lælio-cattleya Lucasiana, L.-c. × Ingramii, good forms of Odontoglossum crispum, &c.

H. S. Goodson, Esq., Fairlawn, West Hill, Putney (gr. Mr. Day), also obtained a Silver Flora Medal for a fine and varied group. It contained a good series of Dendrobium Wardianum, D. nobile, D. × Ainsworthii, D. crassinode, D. Jamesianum, Cattleya citrina, C. Mendelii H. S. Goodson, and other showy forms, Lælia harpophylla and L. purpurata, Oncidium concolor, Lælio-cattleya × Lucia H. S. Goodson, Epidendrum radicans and E. × O'Brienianum, good Odontoglossums, &c.

W. Thompson, Esq,, Walton Grange, Stone (gr. Mr. Stevens), showed Odontoglossum × Vuylstekei Thompson's var., a very dark form, and O. crispum Clio, the latter a fine rosy lilac form, with a very few cinnamon-brown blotches on the segments, which received an Award of Merit.

Gurney Wilson, Esq., Glenthorpe, Hayward's Heath, exhibited Odontoglossum nebulosum Gurney Wilson, a very fine spotted form, which obtained an Award of Merit.

H. L. Bischoffsheim, Esq., Warren House, Stanmore (gr. Mr. Ellis), sent good forms of Odontoglossum triumphans and Lælio-cattleya × bletchleyensis.

H. Druce, Esq., St. John's Wood (gr. Mr. Walker), sent Cypripedium bellatulum nobilius, very heavily spotted, C. × Miss Daisy Druce (Chamberlainianum × concolor), a pretty form approaching the former in habit, and having greenish-white flowers, with some light purple lines on the dorsal sepal, the handsome C. × Mrs. H. Druce, and C. × Walkerianum. The two latter were figured at pp. 359, 360 of our last volume.

J. Gurney Fowler, Esq., South Woodford (gr. Mr. Davis), sent Cypripedium × Mary Beatrice Queen of Ethiopia, a blackish purple form, and Cattleya × Alfred Fowler (granulosa × Trianæ), having cream-white sepals and petals tinged with lilac, and the front lobe of the lip crimson-purple.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), sent Lælio-cattleya × splendens.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent the remarkable peloriate Cattleya intermedia Aquinii, which was figured at page 73 of our eighth volume.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), staged a small group of Odontoglossums, of which the central one was a very fine form of O. triumphans.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), sent cut spikes of beautiful some Odontoglossums, among which O. Pescatorei Schrœderianum was conspicuous, its flowers being prettily spotted with rose purple.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a fine group, which gained a Silver Flora Medal. It contained good examples of Lælio-cattleya × Hyeana splendens, L.-c. × Wellsiana alba, L.-c. × Mercia, L.-c. × G. S. Ball, L.-c. × Dora, L.-c. × Digbyano-Mossiæ, L.-c. × Digbyano-Schrœderæ, Cattleya × Enid, C. × Jupiter, a fine Odontoglossum Harryanum, Spathoglottis Kimballiana, &c.

Messrs. Sander and Sons, St. Albans, also received a Silver Flora Medal for an excellent group, containing numerous good Odontoglossums, Lycaste lasioglossa with eight flowers, Anguloa Clowesii, Cattleya intermedia alba

and nivea, C. × suavis (Schrœderœ × Skinneri), Cypripedium × Amphion superbum (Harrisianum superbum × Lawrenceanum), Lælio-cattleya × Aphrodite, L.-c. × Martinetii, L.-c. × Henry Greenwood, and various other good things.

Messrs. Stanley Ashton & Co., Southgate, also obtained a Silver Flora Medal for a beautiful group, containing some good Odontoglossum crispum, several fine examples of Oncidium varicosum Rogersii, Masdevallia × Pourbaixii, Cymbidium Lowianum concolor, &c.

Messrs. Hugh Low and Co., Bush Hill Park, also staged a very pretty group, containing a very handsome Cattleya Trianæ, C. intermedia alba, C. Lawrenceanum, and other good Cattleyas, Lycaste aromatica, Scaphosepalum ochthodes, Masdevallia Houtteana, Lælio-cattleya × Mozart, some good Dendrobiums, &c.

ON May 17th there was again a fine display of Orchids, and the meeting was specially distinguished by the reappearance of the handsome Cymbidium Parishii, which, however, was at the time considered to be a new species.

H. S. Goodson, Esq., Putney (gr. Mr. Day), again staged a beautiful group, which gained a Silver Flora Medal. The plants were well grown and flowered, a few of the more noteworthy being some good Odontoglossum crispum, O. × Andersonianum, and others, two good Phaius × Norman, Lalio-cattleya × highburiensis, several good Lælia × Latona, Cypripedium × Alfred Hollington, and others, also some showy Cattleyas, one form of C. Mossiæ being particularly large and handsome.

N. C. Cookson, Esq., Wylam (gr. Mr. Chapman), sent four very beautiful forms of Odontoglossum crispum, namely Ashworthianum, Raymond Crawshay, Grairianum, now greatly improved, and Harold, the latter gaining a First-class Certificate. It is of excellent form and substance, with red-brown spots on the sepals, the latter pair also marked by the presence of a rudimentary yellow crest on the adjacent basal angles.

Sir Trevor Lawrence, Burford (gr. Mr. White), sent Odontoglossum crispum xanthotes Burford variety, and a cut example of Sobralia Ruckeri, the latter a large, deep rose-purple flower with a white throat, which gained a First-class Certificate.

De Barri Crawshay, Esq., Sevenoaks (gr. Mr. Stables), exhibited Zygopetalum × Sedeni rosefieldiense, and several beautiful varieties of Odontoglossum crispum, called Crawshayanum, Raymond Crawshay, Angel, and Theodora, the latter gaining the Award of Merit. It is a beautiful white form, tinged with purple at the back, and spotted with reddish purple on all the segments.

H. Little, Esq., Twickenham (gr. Mr. Howard), received an Award of

Merit for Lælia purpurata Baronshalt var., a beautiful white form, with the front lobe of the lip pale rosy lilac, and some purple lines on the yellow disc.

H. T. Pitt, Esq., Stamford Hill (gr. Mr. Thurgood), sent a fine specimen of Cattleya intermedia Lowryana, with a slaty blue front lobe to the lip, and Odontoglossum crispum xanthotes Snow Queen, a beautiful white form blotched with orange yellow.

C. A. Morris Field, Esq., Sevenoaks (gr. Mr. Edwards), sent a well-flowered example of Dendrobium Devonianum.

Captain G. L. Holford, C.I.E., Westonbirt (gr. Mr. Alexander), sent a well-flowered example of Odontoglossum × Hallio-crispum.

C. J. Lucas, Esq., Warnham Court (gr. Mr. Duncan), sent Odontoglossum crispum warnhamense, very prettily and evenly spotted with purple on all the segments.

F. Wellesley, Esq., Woking (gr. Mr. Gilbert), staged a very pretty little group, containing Lælio-cattleya × Vinesiæ ignescens (L. tenebrosa × L.-c. × Phœbe), L.-c. × Baldockiana exquisita (C. Gaskelliana × L. cinnabarina), a pretty clear yellow hybrid, L.-c. × Lucia Westfield var., Lælia × cinnabrosa, the fine Cypripedium × Colossus, and C. × Hopkinsianum (bellatulum × Mastersianum), a pretty whitish flower tinged and thickly spotted with purple.

Messrs. Sander & Sons, St. Albans, received a First-class Certificate for a handsome Cymbidium, called C. Sanderæ, which proves to be a variety of the very rare C. Parishii. A note appears on page 163.

Messrs. James Veitch & Sons, Chelsea, staged a very beautiful group, which gained a Silver Flora Medal. It contained a number of good plants of Masdevallia Veitchiana and M. ignea, Oncidium Marshallianum, Dendrobium Bensonæ, D. thyrsiflorum, and other Dendrobes, some showy Cattleya Mossiæ, Mendelii, and citrina, Lælia purpurata, several good Lælio-cattleya × Wellsiana, L.-c. × Daphne, L.-c. × Ascania, L.-c. × Zephyra, L.-c. × Hyeana, Epidendrum × elegantulum, E. × O'Brienianum Cypripedium × Ajax (C. × Germinyanum × Chamberlainianum), &c.

Messrs. Hugh Low & Co., Bush Hill Park, gained a Silver Banksian Medal for a bright group, including some good Cattleya Mossiæ, the variety Reineckeana being very beautiful, a well-flowered C. intermedia, C. Skinneri with twenty flower spikes, some excellent forms of Lælia purpurata, Dendrobium Bensonæ, and the unblotched variety xanthina, Lycaste aromatica, L. cochlearis, and other showy things.

Messrs. William Cutbush & Son, Highgate, received a Botanical Certificate for the pretty little Cypripedium californicum. It has leafy stems, terminated by a raceme of six or seven yellowish flowers with a white lip. They also exhibited a number of hardy terrestrial Orchids, including several British species, in a group of Alpine plants, to which a

Silver Flora Medal was awarded by the Floral Committee. The remarkable Lizard Orchis, Orchis hircina, attracted much attention, and Cypripediums parviflorum, montanum, and spectabile were very beautiful.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held on April 15th, in conjunction with the Spring Show of the Royal Botanical and Horticultural Society of Manchester, when there was a very fine display of Orchids, and no less than twelve medals of different kinds were awarded.

A. Warburton, Esq., Haslingden (gr. Mr. Bailey), received a Gold Medal for a very choice group, together with a First-class Certificate for Odontoglossum × ardentissimum, Vine House var., and an Award of Merit for O. crispum Queen Alexandra.

R. Ashworth, Esq., Newchurch (gr. Mr. Pidsley), received a Silver-gilt Medal for a fine group, with First-class Certificates for Odontoglossum crispum Carnusianum and Lælio-cattleya × G. S. Ball var. superba, and an Award of Merit for L.-c × Lucia superba.

E. Ashworth, Esq., Wilmslow (gr. Mr. Holbrook), also gained a Silver-gilt Medal for a fine group, a First-class Certificate for Dendrobium × Apollo grandiflorum, and an Award of Merit for D. × Cybele Ashworthianum.

S. Gratrix, Esq., Whalley Range (gr. Mr. G. Cypher), obtained a Bronze Medal for a small group, together with First-class Certificates for Odontoglossum crispum Gratrixiæ and O. c. Robsonianum.

W. Thompson, Esq., Stone (gr. Mr. Stevens), received Awards of Merit for each of the three following :—Odontoglossum × waltonense, O. sceptrum nobilior, and Mesospinidium vulcanicum.

Interesting groups were also staged by W. Duckworth, Esq., Flixton (gr. Mr. Tindall), and E. Rogerson, Esq., West Didsbury (gr. Mr. Blomeley), in each case a Bronze Medal being awarded.

Messrs. John Cowan & Co., Gateacre, staged a fine group, which gained a Silver-gilt Medal, and a First-class Certificate also went to Odonto-glossum × mirificum splendens.

Messrs. Charlesworth & Co., Heaton, Bradford, and Messrs. J. Cypher & Sons, Cheltenham, also each received a Silver-gilt Medal for a fine group.

Mr. S. Allen, Sale, and Mr. J. Robson, Altrincham, each received a Silver Medal for a good group of Orchids, while Messrs. Hugh Low Co., Enfield, received a Bronze Medal.

Messrs Stanley, Ashton & Co., Southgate, received a Vote of Thanks for a small group, and an Award of Merit for the rare and pretty Mexican natural hybrid Odontoglossum × Duvivierianum.

Mr. D. McLeod, Chorlton, received a Vote of Thanks for a small group.

On May 13th there was again a very bright display, and the meeting was distinguished by the appearance of a plant of the handsome Cymbidium rhodochilum, to which a First-class Certificate was awarded.

Dr. Hodgkinson, Wilmslow (gr. Mr. Woore), sent a plant of the remarkable Madagascar Cymbidium rhodochilum, to which a First-class Certificate was awarded. Its history was given at page 184 of our tenth volume.

N. C. Cookson, Esq., Wylam-on-Tyne (gr. Mr. Chapman), gained First-class Certificates for three beautiful varieties of Odontoglossum crispum, called Ashworthianum, Harold, and Raymond Crawshay.

E. Rogerson, Esq., Didsbury (gr. Mr. Blomeley), staged a beautiful group, to which a Silver Medal was given. He also gained Awards of Merit for Lælia-cattleya × bletchleyensis excelsior and Odontoglossum crispum Stanley Rogerson.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Schill), received a Bronze Medal for a small group, and Awards of Merit for Odontoglossum Pescatorei Frances, O. crispum George W. Law, and O. c. Hon. Florence Brooks.

M. Ch. Vuylsteke, Loochristi, Ghent, sent a few choice Odontoglossums, which received a Vote of Thanks, and Award of Merit also going to Odontoglossum × mirificum var. spectabile.

Votes of thanks were also given to Messrs. James Cypher & Son, Cheltenham, and Messrs. Hugh Low & Co., Enfield, for two very pretty groups.

The Annual General Meeting was held on the same date, and it was shown that the Society was in a very satisfactory condition, the membership having increased during the year, and there being a substantial balance at the bankers.

It was decided that in future the day of meeting shall be Thursday, such meetings to follow those of the Royal Horticultural Society held in London on Tuesday.

MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL.

THE Annual Whitsuntide Show of this Society opened on May 21st, when there was a very good display of Orchids, though not equal to that of some former years, for which the coming Temple Show is believed to have been partly responsible.

The prize for the best miscellaneous collection of Orchids in flower was won by E. Ashworth, Esq., Wilmslow (gr. Mr. Holbrook), with a very beautiful group, including a good example of Eriopsis rutidobulbon (Award of Merit), Dendrobium nobile macrophyllum (A.M.), Cattleya Skinneri, C. Mendelii Sanderi, Lælio-cattleya × Phoebe, and many other fine things. The Hon. W. A. Bass, Burton-on-Trent (gr. Mr. Nisbet), was second, and Mrs. S. Wood, Glossop (gr. Mr. Gould), third.

In the corresponding class for nurserymen, Messrs. James Cypher & Sons, Cheltenham, secured the prize with a splendid group, in which Miltonia vexillaria, Cattleya Skinneri and C. S. alba, Oncidium macanthrum, Lælias purpurata and tenebrosa, Masdevallias, and others were conspicuous. Awards of Merit were given to Vanda gigantea. Odontoglossum crispum Clayi, and Lælia purpurata varieties Emperor and Duchess.

For a collection of Odontoglossums E. Ashworth, Esq., was again successful, with a good group in which O. Pescatorei and forms of O. crispum were conspicuous.

W. Duckworth, Esq., Flixton (gr. Mr. Tindall), sent a good miscellaneous group which gained a Silver Medal. In this group Oncidium Marshallianum, Odontoglossum Pescatorei and Lælias were conspicuous.

Messrs. John Cowan & Co., Gateacre, staged a very fine group which gained a Gold Medal. It contained some good Dendrobium Bensonæ, Cymbidium Lowianum, Cattleya Mossiæ, C. Skinneri alba, C. Schilleriana, Cypripedium callosum Sanderæ, Miltonia vexillaria, Odontoglossum crispum (Award of Merit), &c., &c.

Mr. John Robson, Altrincham, gained a Silver Medal for a beautiful group, including some good Odontoglossums, Cattleya Skinneri, &c.

NATURAL HYBRID ODONTOGLOSSUMS.

ODONTOGLOSSUM × PRÆVISUM.—This is a very interesting and pretty Odontoglossum from the collection of W. Thompson, Esq., Walton Grange, Stone, which Mr. Stevens suggests may be a natural hybrid between O. Lindleyanum and either O. gloriosum or O. × Andersonianum. It has lanceolate, undulate, very acuminate, yellowish white sepals and petals, the former being heavily blotched and the latter prettily spotted with light reddish brown. The lip is strongly deltoid, with an acuminate apex, and a light yellow area round the bilobed darker yellow crest, and this again is surrounded by a zone of light brown extending half way to the apex. The column wings are narrow, and somewhat toothed, and in front somewhat cirrhate. The segments bear the imprint of O. gloriosum very strongly, while the shape and markings of the lip, and the markings and details of the column show the influence of O. Lindleyanum. It is a very interesting addition, for it may be remembered that it was mentioned in an earlier paper (vol. i., p. 277) as the one missing out of six possible combinations between the Bogota species, but since then O. Hunnewellianum has been brought into the group, giving four possible combinations, only one of which has yet been recorded, namely O. × Adrianæ. The specific name (prævisum) indicates that its probable appearance was foreseen.

R. A. ROLFE.

ORCHIDS AT OAKWOOD, WYLAM-ON-TYNE.

A VERY interesting account of "Oakwood, Wylam-on-Tyne," the seat of Norman C. Cookson, Esq., appears in the *Gardeners' Magazine* for May 28th,

FIG. 29. GROUP OF ODONTOGLOSSUMS AT OAKWOOD.

accompanied by seven fine photographic illustrations. They include Odontoglossum crispum Cooksonianum, O. c. Jeanette, O. c. Luciani, a group of choice Odontoglossums at Oakwood, and a portrait of Mr. Cook-

son. The others are beyond our scope, but it may be said that Mr. Cookson's tastes are not by any means confined to Orchids, though it is in the famous Orchid collection that the greatest interest centres. It is stated that: "With the exception of the Odontoglossum Houses, all the Orchid structures are span-roofed, and have very broad panes of glass. The stages are of teak, and in almost every instance these are raised above the stage proper. The latter is also of teak, with the seats three-quarters of an inch apart, thus permitting a circulation of air through the moisture-laden coke, with which it is covered, up to the plants on the stage above." Odontoglossums are prime favourites here, and they are remarkably well grown. The essential points are thus described: "The greatest care in watering, judicious ventilation, and a more restricted use of shading than many growers adopt, are the chief points in the methods followed. Double staging, ample atmospheric moisture, an open water tank in each House, and the use of leaves in the potting compost, are other matters that have their bearing on the splendid results achieved. When potting Odontoglossums one crock is placed over the drainage hole, and then about a couple of inches of broken bracken roots—less for very small pots—are laid over it. The compost itself consists of good fibrous peat and sphagnum, mixed with about one-third of its bulk of leaf-mould. This leaf-mould is produced on the estate, and consists of oak and beech leaves that have been stored for one year since they fell from the trees, and are thus still whole, or mostly so, and just beginning to crumble. The Odontoglossum roots go down into this mixture and into the bracken below as though they loved it." The reputation of this fine collection is well maintained under Mr. Chapman's excellent management.

For the loan of the handsome block used on the preceding page we are indebted to the courtesy of the proprietors of the *Gardeners' Magazine*.

THE TEMPLE SHOW.

THE seventeenth Great Annual Temple Show opened on Tuesday, May 31st, in the Inner Temple Gardens, and will be continued on the two following days. A threatening morning was followed by a steady downpour of rain, which continued throughout the day, but in spite of the unfavourable conditions there was a very good attendance of visitors, and the tents were crowded. Shortly before the Show opened it was visited by their Majesties the King and Queen, who were evidently greatly interested in some of the exhibits. The display of Orchids was extensive, and excellent in every respect, several of the groups being very brilliant, and it was a great pleasure to many to see Baron Schröder re-occupying his old position

with a superb group, whose excellence alike in quality and culture was recognised by the award of a Gold Medal. The sensation of the Show, however, was a most remarkable hybrid between Odontoglossum Pescatorei and the brilliant orange-scarlet Cochlioda Nœtzliana, called Odontioda × Vuylstekeæ, from M. Ch. Vuylsteke, of Ghent, which gained both a First-class Certificate and a Silver-gilt Lindley Medal. The Orchid Committee awards comprised four First-class Certificates, four Awards of Merit, and one Cultural Commendation.

Baron Sir H. Schröder, The Dell, Staines (gr. Mr. Ballantine), staged a splendid group, excellent in quality, culture, and arrangement, which gained the award of a Gold Medal. It contained good examples of most of the showy species of the season, including some beautiful forms of Odontoglossum crispum, and others, the remarkable O. × Coradinei mirabile, O. × elegantius, O. Pescatorei virginale, O. crispum Rex, Zygopetalum × Perronoudi, the brilliant Renanthera Imschootiana with an inflorescence of four branches, Miltonia Warscewiczii albescens, Dendrobium × illustre, the rare Spathoglottis aurea, the beautiful Cypripedium callosum Sanderæ, some brilliant Cattleyas, Lælio-cattleyas, and other good things, which it would take too much space to enumerate in detail. This remark also applies to many of the succeeding groups, as a full report would occupy much more space than we can afford.

Sir Frederick Wigan, Bart., East Sheen (gr. Mr. Young), staged a very beautiful group, which gained the Special Prize offered for the most tasteful arrangement. It was a rich and varied group, in which we noted some good Odontoglossum crispum, O. polyxanthum, O. cordatum, the brilliant Cochlioda Nœtzliana, Miltonia vexillaria memoria G. D. Owen, having a very dark blotch at the base of the lip, M. × Bleuana, Aerides Fieldingii, Brassia brachiata, a good form of Oncidium sarcodes, O. Gardneri, Zygonisia × Rolfeana with two racemes ; a fine Dendrobium thyrsiflorum, Phalænopsis amabilis, Lælia majalis with twin-flowered scape, Brasso-cattleya × striata, Cattleya Skinneri alba, Nanodes Medusæ, Cypripedium bellatulum, C. b. album, good examples of C. niveum, C. × Eira (Chamberlainianum × clarense), some brilliant Cattleyas and Lælio-cattleyas, Cymbidium tigrinum, a fine C. Lowianum, and C. Devonianum with six fine racemes, the latter receiving a Cultural Commendation.

Captain G. L. Holford, C.I.E., Westonbirt (gr. Mr. Alexander), staged an excellent group, which gained a Silver Cup. Cattleyas and Lælio-cattleyas were in the ascendant, and we noted C. Mossiæ Wageneri and other good forms of the species, Lælio-cattleya Fascinator, L.-c. × Ascania, L.-c. × G. S. Ball, Cœlogyne pandurata, Brassavola Digbyana, Cymbidium tigrinum, Cypripedium niveum, with nine flowers, including three twin-flowered scapes, C. callosum Sanderæ, C. ×

Maudiæ, C. × Lawrebel, &c. A First-class Certificate was given to Lælio-cattleya × Digbyano-Mossiæ Westonbirt var., a very fine rose-purple variety, having a very large yellow blotch on the lip.

Jeremiah Coleman, Esq., Gatton Park (gr. Mr. Bound), also received a Silver Cup for a very beautiful group, containing many good Cattleyas, Odontoglossums, Miltonia vexillaria, Masdevallia coccinea, a well-flowered M. × Pourbaixii, Dendrobium Falconeri, Bulbophyllum Lobbii and barbigerum, Epiphronitis × Veitchii, Odontoglossum cirrhosum, the handsome O. × Ruckerianum illustre, O. crispum Colmanianum, a fine form having large cinnamon blotches, O. Hunnewellianum, O. × Coradinei, &c.

R. Ashworth, Esq., Newchurch, Manchester (gr. Mr. Pidsley), received a Silver-gilt Flora Medal for a choice little group, in which the beautiful Cypripedium callosum Sanderæ, C. Lawrenceanum Hyeanum, O. Pescatorei, a good O. × loochristiense, O. crispum Queen Victoria, and several other pretty forms of the species, the brilliant Cochlioda Nœtzliana, a few good Lælio-cattleyas, &c., were noted.

J. Rutherford, Esq., Blackburn (gr. Mr. Lupton), received a Silver-gilt Banksian Medal for a pretty little group, containing some good Cattleya Mossiæ, two fine examples of Odontoglossum × Harryano-triumphans, bearing eight and ten flowers, a beautiful example of O. × loochristiense, and other good things.

The Hon. Walter Rothschild, Tring Park (gr. Mr. Dyer), received an Award of Merit for Lœlio-cattleya × Martinetii, Tring Park var., a large and very richly-coloured form.

M. Jules Hye de Crom, Ghent, sent Odontoglossum × japonais (O. crispum album × Rolfeæ), a very pretty hybrid most resembling the latter in shape and arrangements of the spots, these, however, being light yellowish brown in colour.

F. Wellesley, Esq., Woking (gr. Mr. Gilbert), sent several good forms of Cattleya Mossiæ, a fine example of C. Mendelii bearing six racemes, the richly-coloured Lælio-cattleya Captain Percy Scott, and a good Lælia purpurata.

R. G. Thwaites, Esq., Streatham (gr. Mr. Black), sent Odontoglossum crispum Boltoni, a very richly blotched form.

J. H. Grogan, Esq., Baltinglass, Co. Wicklow (gr. Mr. Oliver), sent Odontoglossum crispum Grogan's var., a pretty light yellow, quite unspotted form.

Darcy E. Taylor, Esq., Chippenham, sent Dendrobium crepidatum and D.-c. album, one pink and the other white, the difference even extending to the pedicels of the flowers, and forming a very pretty contrast.

Sir R. D. Moncreiffe, Bart., Bridge of Earn (gr. Mr. Common), sent a good white form of Odontoglossum crispum.

The trade exhibits were excellent in quality, and extensive, and we regret that considerations of space prevent us from giving more than a very brief report.

M. Ch. Vuylsteke, Loochristi, Ghent, supplied the sensation of the Show in the shape of a most remarkable hybrid between Odontoglossum Pescatorei and Cochlioda Nœtzliana. It was named Odontioda × Vuylstekeæ, and received both a First-class Certificate and a Silver-gilt Lindley Medal. It is described on page 189, where the reader is referred for further particulars. He also sent a few choice hybrid Odontoglossums, two of which gained Awards of Merit, namely O. × venustulum (O. × Harryano-crispum × ardentissimum), a pretty white form tinged with lilac and heavily blotched with purple, and O. × concinnum lætum (Pescatorei × sceptrum), a very compact flower with very broad lip. Another form of this, called insignitum, had longer segments and a narrower lip. Two other fine things were shown, namely O. × percultum (O. × Rolfeæ × ardentissimum), a fine thing with moderately broad acuminate segments, very heavily blotched with brownish purple, and O. × nitidum (Harryano-crispum × Wilckeanum) another fine white, very heavily blotched with deep red-brown.

Messrs. Sander & Sons, St. Albans, staged a remarkably rich group which gained a Gold Medal. It contained many good forms of Odontoglossum crispum, the profusely blotched O. × ardentissimum Queen Alexandra, a beautiful form O. × Rolfeæ, good forms of Miltonia vexillaria, M. × Bleuana, the beautiful Cattleya × Mrs. Myra Peeters (C. Gaskelliana alba × Warneri alba), the very rare C. iricolor, C. Mossiæ Wageneri, and a beautiful series of coloured forms, C. Skinneri, some fine forms of Lælio-cattleya × Canhamiana, × Martinetii and others, Dendrobium spectabile with a spike of eleven flowers, D. nutans, D. atroviolaceum, Vanda teres, V. × Miss Joaquim, the rare V. cristata, Aërides Micholitzii (Rolfe), a new species allied to A. odoratum, with light rose-purple flowers and a rather short spur, a fine Cœlogyne asperata, Lycaste tricolor, Oncidium phymatochilum and others, Cypripedium Lawrenceanum Hyeanum and others, a few hybrid Phaius, Lælio-cattleya × Lord Kitchener (C. Schilleriana × L.-c. × elegans), and others far too numerous to mention.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a very large and brilliant group, which gained a Silver Cup. It contained a remarkably rich series of Lælio-cattleyas, one of the best we have ever seen, two of them gaining First-class Certificates, namely L.-c. × Canhamiana Rosslyn variety, having the lip of the most intense claret-crimson, and L.-c. × Fascinator King Edward, a beautiful blush-white form, with much-fringed rose-coloured lip. There was also a beautiful series of Odontoglossums,

including two beautiful examples of O. luteopurpureum Vuylstekeanum with three and four racemes, O. Pescatorei Charlesworthii, prettily spotted, a fine O. × Hallio-crispum, Miltonia × Bleuana, Cœlogyne pandurata, many beautiful forms of Cattleya Mossiæ, including C. M. Wageneri and Reineckeana, C. citrina, the beautiful C. Warneri alba, C. Skinneri, C. Schilleriana, Oncidium leucochilum, Gardneri, Marshallianum, and others, the handsome Trichopilia coccinea, Cyrtopodium Andersonianum, Bifrenaria inodora, Trigonidium Egertonianum, Brasso-cattleya × Digbyano-Mossiæ, B.-c. × striata, &c.

Messrs. Hugh Low and Co., Bush Hill Park, staged an excellent group, in which we noted two well-flowered specimens of Cattleya Skinneri about 3 feet in diameter, some fine forms of C. Mossiæ and its white varieties, C. Schilleriana, C. intermedia alba, some good Dendrobium Bensonæ, Odontoglossum coronarium, O. Pescatorei virginale, O. × excellens, some good O. crispum, &c., Miltonia Roezlii and var alba, Epidendrum prismatocarpum, the pretty little Eria extinctoria, some good Lælia purpurata, Disa langleyensis, Lælio-cattleya × Aphrodite, &c., Cypripedium Rothschildianum, C. callosum Sanderæ, C. Lawrenceanum Hyeanum, C. niveum, C. philippinense, &c. A Silver Cup was awarded for Orchids, Figs, and Carnations.

Messrs. John Cowan and Co., Gateacre, staged a bright and pretty group, which received a Silver-gilt Flora Medal. It contained some good Cattleyas, Odontoglossums, Lælias, Miltonia vexillaria, &c., a few of those noted being the rare Odontoglossum × elegantius, O. × Wilckeanum, Cœlogyne pandurata, Dendrobium Bensonæ, Oncidium crispum, Masdevallia Schrœderiana, Cypripedium × Dowlingianum, C. × Rolfei, two pretty forms of C. × Vipani, the beautiful yellow C. × villexul, with dark blotches on the dorsal sepal, Phalænopsis amabilis, and good examples of most of the showy species of the season.

Messrs. James Cypher and Sons, Cheltenham, also gained a Silver-gilt Flora Medal for a very pretty group, in which the plants were very tastefully arranged. It contained many good Odontoglossum crispum, O. Uroskinneri, O. hastilabium, O. Hallii, O. Pescatorei, O. × Adrianæ, the brilliant Cochlioda Nœtzliana, Maxillaria Sanderiana, a well-bloomed Masdevallia rosea, some good examples of M. coccinea and Veitchiana, Epidendrum vitellinum, Cœlogyne Dayana, Cypripedium Mastersianum, a well-grown C. niveum, Brasso-lælia × Gratrixiæ, Phalænopsis amabilis, Lælia purpurata, and other good things.

Messrs. William Bull and Sons, Chelsea, staged a fine group, containing a number of showy Cattleya Mossiæ and Mendelii, C. Schilleriana, some good Odontoglossum crispum, two good O. Hunnewellianum, O. × Adrianæ, O. Hallii, O. × Coradinei, O. × ardentissimum, some good

Oncidium Marshallianum, Lælia purpurata, L. p. Queen Alexandra, a beautiful white form, having a few narrow dusky lines on the light yellow disc, L. p. chelseiensis, having white ground colour, with a purple blotch on each side of the lip, and the disc faintly lined at the base, and numerous other good things. A Silver-gilt Flora Medal was awarded for Orchids and Foliage Plants.

Mr. John Robson, Altrincham, staged a good group consisting largely of Odontoglossums, and received a Silver Flora Medal. In addition to numerous forms of O. crispum and Pescatorei, we noted a good O luteopurpureum, O. cirrhosum, some bright forms of Masdevallia coccinea, Dendrobium Phalænopsis, Cattleyas, Cypripedium Rothschildianum, and others.

M. A. A. Peeters, Brussels, sent Lælio-cattleya × Martinetii Coronation, a richly coloured form, and L.-c. × Stepmanii (L.-c. × corbeillensis × C. Warscewiczii), the latter receiving an Award of Merit. It had light-rose coloured sepals and petals, with the front lobe of the lip rich purple-crimson and the throat white.

We noted also in a small jar the inflorescence of a very pretty form of Odontoglossum × Adrianæ, and a peloriate state of O. crispum somewhat resembling the variety Oakfield Sunrise, but could not ascertain who was the exhibitor.

Among the herbaceous and Alpine plants we noted numerous examples of hardy Orchids, as Cypripedium acaule, Calceolus, candidum, macranthum, montanum, pubescens, and Reginæ, Ophrys muscifera, Orchis fusca, the remarkable O. hircina, O. latifolia, O. militaris, O. papilionacea, Habenaria bifolia, with a few others. The exhibitors included Messrs. James Backhouse and Sons, Barr and Sons, Cutbush, Guildford Hardy Plant Company, the Misses Hopkins, Mr. Amos Perry, Mr. G. Reuthe, Ware and Sons, Messrs. Wallace and others. Some of them produced a very beautiful effect, and one in Messrs. Backhouse's group was specially interesting, being about intermediate between Cypripedium Calceolus and C. macranthum, with which it was imported, and which were exhibited with it. A note appears on p. 185.

AN AMATEUR'S COLLECTION.

THE following letter which we have received from a beginner in Orchid culture will probably be read with interest, and may recall to some of our readers memories of their own early experiences :—

"I am very pleased to see you are going in for articles for Amateurs, as I think it will make your journal more popular. Out of all the amateur gardeners here I cannot find another who devotes his little greenhouse to

Orchids the same as I do. I am situated in the midst of a large town, shut in by house-ends and walls, and I have been told by several gardeners who have seen my plants that they don't know how I keep them in such good health, and looking so well. I have been growing Orchids now for over three years, and have gained a very good idea of what they need. I am a member of the Horticultural Society here, and have taken plants to the meetings when I have had any in bloom, and in this way have induced another member to try his hand. He sent for three plants last week, and I think I shali induce two others to try before the year is out. *Amateur Gardening* first gave me the Orchid fever, and then I sent for Mr. Burberry's book, which has taught me all I know.

"After reading the article on Orchid Hybridisation in your issue for February, 1903, when I had Odontoglossum Rossii and O. Cervantesii in bloom, I removed the pollen from a flower of the latter, and then placed the pollen from O. Rossii on the stigma, which adhered at once. Four days later the column wings had folded over, leaving the point of the anther just showing. It is my first attempt at hybridising, and I feel rather proud of it." T. W.

[Odontoglossums are rather difficult plants for a beginner in hybridising, and it would be rather a feat to bring this particular cross through to the flowering stage. We do not remember if it has previously been attempted, but it should yield a very pretty little hybrid, The difficulty generally begins when the seeds are sown. We shall hope to hear of any further progress.—ED.]

SOBRALIA RUCKERI.

To many Orchidists Sobralia Ruckeri is little more than a name, yet it is a very handsome species, as may be inferred from the fact that it received a First-class Certificate from the R. H. S. on May 17th last, when exhibited by Sir Trevor Lawrence. The same exhibitor also received an Award of Merit for it in May, 1901 (*O.R.*, ix., p. 182). The species is a native of Colombia, and was discovered by Schlim, in the Province of Ocana, between 5,000 and 6,000 feet elevation, and described in 1854 (Lind. and Rchb. f. in *Bonpl.*, ii., p. 278), and afterwards figured (*Xen. Orch.*, i., p. 108, t. 44). It was dedicated to the late S. Rucker, Esq., of Wandsworth, When first introduced to cultivation is uncertain, but a figure appeared in 1878 (*Warn. Sel.* Orch., iii., t. 19) which presumably flowered in Mr. Warner's collection, at Chelmsford, as its source is not mentioned. It belongs to a quite distinct section from the majority of cultivated species, for, instead of the rachis being extremely short, so that the flowers appear to push out of a cone of imbricating bracts, it is elongated, and flexicose,

the internodes being longer than the bracts. The inflorescence bears about four flowers, over four inches in diameter, the sepals and petals spreading, and rose-purple in colour, and the undulate lip rich purple-crimson, with a large yellow disc, and some white round it, the junction between the white and purple being formed by an abrupt very jagged line. Mr. Warner remarks:—"We have found it to be a free bloomer, the flowers being also more persistent than any of the other species with which we are acquainted." It is allied to the Peruvian S. rosea, Pœpp. and Endl., with which Lindley regarded it as synonymous, though Reichenbach disputes this view. I only know it by the published descriptions and figures, and it is hardly necessary to add that it is excessively rare.

R. A. ROLFE.

CYPRIPEDIUM CALCEOLUS × MACRANTHOS.

IN 1891 a very interesting pamphlet was published by M. William Barbey, of Geneva, entitled "Cypripedium Calceolus × macranthos," containing a description and coloured figure of what was believed to be a natural hybrid between Cypripedium Calceolus and C. macranthos, the two parents being also figured in colours. A year later living specimens of all three were submitted to Kew, and a comparison fully confirmed M. Barbey's views (Rolfe in *Gard. Chron.*, 1892, i., p. 394). The history of the plant is, briefly, that about ten years previously the late M. Edmond Boissier obtained a batch of C. macranthos, which were planted on the rock-work of the garden at Valleyres. After several seasons they flowered, and among them also appeared C. Calceolus and a third quite intermediate form, which is the one now under discussion. It appears that in the birch forests of Western Siberia, whence the plants were obtained, these two species occur abundantly, intermixed. It is interesting to note that among some plants of C. macranthos now flowering at Kew has appeared what is evidently a form of the same hybrid, the agreement in all essential characters being sufficiently close. What drew attention to it was the longer and narrower somewhat twisted petals, narrower dorsal sepal, and some differences in colouring. But a careful comparison raises the question whether C. ventricosum may not have a similar origin. It was described by Swartz as a species at the same time as C. macranthos in 1800 (*Kongl. Vet. Acad., Stockh.*, xxi., p. 251), the habitat being given as E. Siberia in each case. The differences pointed out were that C. macranthos had the petals shorter than the lip and the staminode cordate-acuminate, while in C. ventricosum the petals were longer than the lip and the staminode sagittate and concave. I have long been puzzled by the rarity of the latter: there is a single specimen at Kew, collected at the Ussuri River by Maack, and

labelled C. macranthum β ventricosum, while C. macranthum collected at the spot was labelled C. macranthum vulgare. I do not find that Maack also collected C. Calceolus, but, according to Ledebour, all are found in Siberia in the Ural and Baikal districts. Reichenbach regards C. ventricosum as a variety of C. macranthum (*Fl. Germ.*, xiii., p. 169, t. 497), but the point should be investigated from the standpoint of possible hybridity.

Since the above was written I have seen another example, in the group of Alpine plants exhibited by Messrs. James Backhouse and Sons, of York, at the Temple Show. There were also examples of C. Calceolus and C. macranthum, and on enquiry Mr. W. A. Clarke informed me that all came together from a nurseryman at St. Petersburg; also that the supposed hybrid had previously appeared in similar importations, and had been taken for a form of C. macranthum, though its intermediate characters had been noticed.

R. A. ROLFE.

CALENDAR OF OPERATIONS FOR JUNE.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE temperatures given for last month should be maintained in all departments, and the shading, airing, and damping down well attended to, which is a matter of great importance. On the Cattleya and Lælia houses, also the Dendrobium and other warm houses, the blinds should be removed rather early in the afternoon—say from three to five o'clock, according to the position of the house—and at the same time the ventilation should be reduced and a thorough damping down given. Spraying the plants also overhead is beneficial. In fact, at this season, when the weather is bright and hot, a good spraying overhead with soft warm water when the house is closed is attended with good results. But when this is done it is necessary to be a little careful with some few things, whose young growths are in the habit of damping off. When plants are healthy, however, and the conditions well attended to, as advised, the plants that damp are few and far between, though one or two Dendrobiums are likely to do so, particularly D. Bensoniæ and D. superbum. The houses, when closed and damped down, will become beautifully warmed, and a suitable growing temperature will be generated that will last throughout the night without the assistance of fire heat, although it is frequently advantageous and even necessary to have a slight warmth in the pipes during the night in the warmest departments, that is, the Dendrobium and East Indian houses. When finally closing the houses in this manner for the day, it is advisable to have the ventilators more or less open at the bottom, according to the conditions of the weather. It is well to remember that the above treatment is good for

Orchids only that require much warmth during the growing season, hence is not applicable for cool Orchids.

Lælia anceps and other inmates of the Mexican house are now growing and rooting freely. This house requires very little shading, and consequently, needing plenty of air, will naturally soon become dried up. In order to prevent the atmosphere from getting too parched the floors and stages should be damped down rather frequently throughout the hottest part of the day. They should also receive a thorough good syringing overhead the first thing in the morning, which will do a great amount of good and supply their wants in this respect until well on in the day. Towards evening, when the heat from the sun is declining, they should again receive a good syringing, bearing in mind always to use lukewarm water for this purpose.

Diacrium bicornutum is now in flower, and among white flowering Orchids there are few more delicate or beautiful, It is a pity that it will not grow well unless in a strong moist heat, in fact, it is almost useless to attempt its cultivation unless the conditions of the East Indian house are available. There it grows freely enough, seeming to like about the same atmospheric treatment as is given to the genus Phalænopsis. Small hanging pans or baskets are preferable, and a liberal amount of water should be given throughout the growing season.

Epidendrum prismatocarpum is an easily grown species, and the good varieties are most beautiful and attractive. The racemes appear from the top of the last made pseudo-bulbs, and are erect and about a foot long, bearing many flowers, the sepals and petals of which are more or less covered with purple blotches and the lip rose-coloured. In some varieties these blotches are intensely bright and cheerful, which, of course, assists in making the good variety. It is now in bloom, and large well grown plants are always admired, and formerly were much used as specimen plants for exhibition. It grows well in the ordinary compost of peat and moss in equal parts, in well drained pots, and prefers a temperature such as the Cattleya house.

Epidendrum vitellinum is a beautiful species and one very popular with all Orchidists. It usually admits of easy growth if placed with the Odontoglossums in the Cool house with plenty of water during summer, and but little during winter. The flowers are opening quickly, and brighten up this department, long after the Odontoglossum crispum and Masdevallias &c., are past. Repotting is not often necessary, as it resents root disturbance, though it should be kept nicely top-dressed, and always secured firmly. It then gives little trouble, and will eventually produce fine plump pseudo-bulbs, pleasing to look upon.

Epidendrum nemorale is another neat and pretty species, requiring a

good amount of warmth and moisture when growing, but during winter a good dry rest in the Cattleya house is most suitable to its well-being. Epidendrum Wallisii, xanthirum, Cooperianum, radicans, evectum tovarense, syringothyrsus, and × O'Brienianum are other desirable kinds belonging to the slender, reed-like growing section, for all of which intermediate treatment is admirably suited. They like plenty of water during the summer months, and during winter they are not to be dried too much, or they may suffer, their manner of growth not being adapted to long droughts.

Trichopilia (Pilumna) fragrans is a lovely species, which should be treated exactly like its nearest allies, the majority of which are now, or have lately been, in bloom. Some of these are particularly handsome, the best being T. suavis, T. tortilis, T. coccinea and their varieties. They all thrive well grown in equal parts of peat and moss, in intermediate temperature, and must not be allowed to get into a sour condition at the roots for want of repotting, which should be done about every two years. A fairly good supply of water is essential while growing, but care should be taken not to overdo them with it, or the roots perish, and a disease, in the form of black marks and spots, carries them off eventually. They are best grown in pans suspended, as the flowers, which are produced on short stems, are seen to better advantage than when in pots on the stage, their full beauty being then partly lost.

Lycastes are now growing apace, and if they are to be repotted should be done at once. They like a rather more substantial compost. The peat, therefore, need not be of the best quality, or a little fibrous loam may be mixed in. Lycastes are also better in the intermediate house during winter, though they will stand a low degree of temperature if not over-watered. They are frequently lost through being kept too wet, especially L. Skinneri, which even when in full growth should be watered carefully. L. aromatica, L. cruenta, and L. Deppei, having been well rested since their last pseudo-bulbs were completed, are now producing a quantity of flower buds from their base. The new growths also appear from there simultaneously, and when these are seen they may, if required, be repotted, or left until the flowers have faded. The former course is preferable, for if left later the new growths and roots will have grown very much in the interval, consequently the check will be greater.

Ada aurantiaca may be re-potted, as it passes out of bloom, into equal parts of peat and sphagnum. Allow plenty of drainage, so that during the summer months the plants may receive abundance of water without the compost becoming stagnant. In winter less will suffice, but never allow to become thoroughly dry. It forms a pleasing contrast with its orange scarlet flowers arranged with Odontoglossums of the crispum type.

Cochlioda Nœtzliana is a very pretty Orchid, as also are C. rosea, C. sanguinea, and C. vulcanica. They all require cool house treatment, similar to the cool Odontoglossums, excepting perhaps, that as they are rather smaller growing plants, they will have a better chance of receiving their full share of light and air, if grown in pans and suspended from the roof. They grow well in a compost of equal parts decayed leaves, peat, and moss, mixing therewith a liberal quantity of sand, and bracken rhizome for drainage. Thus potted, the roots, being of a more fine and fibrous nature, last longer in a good healthy condition, which is very important with fine or small rooting species, for they are invariably averse to root disturbances.

Chysis bractescens is a noble Orchid when its flowers are produced in large trusses, which is the case only when the pseudo-bulbs are large themselves. It is an easy species to succeed with when newly imported, but, like some few others, will deteriorate if not given a treatment meeting its requirements in a reasonable degree. It will do well and last for a longer or shorter period treated as an intermediate Orchid, but does far better eventually if grown with the Dendrobiums when making its growth, and resting with them afterwards. It is best accommodated in baskets, and delights in a liberal supply of water when growing.

THE HYBRIDIST.

ODONTIODA × VUYLSTEKEÆ.—This is a most remarkable hybrid, raised by M. Ch. Vuylsteke, Loochristi, Ghent, from Cochlioda Nœtzliana and Odontoglossum Pescatorei, and exhibited at the Temple Show, when it received a First-class Certificate, and also a Silver-gilt Lindley Medal. The exhibit consisted of an inflorescence of six flowers, the plant itself not being brought over, on account of its value. The flowers have the general shape of the Odontoglossum parent, and measure 2½ inches across, but the colour is much more like that of the Cochlioda. The sepals are ovate, and the petals broadly elliptical-ovate, with the ground colour light cream-yellow, but largely obliterated by the brilliant markings. Each sepal bears a very large deep salmon-red blotch, which extends from the base to beyond the middle, and beyond this the ground colour is light cream yellow in the centre, somewhat dotted with dark salmon-red, but with rose all round the margin. The petals are similarly coloured, except that at the base there is a cream-yellow area, on which occur three salmon-red lines, and above the blotch the cream-yellow area is reduced to a rather narrow zone, through which extend several lines of salmon-red dots, the remainder being deeply suffused with rose. The lip is strongly pandurate, light cream-yellow in colour, irregularly blotched with dark salmon-red, while the base

of the side lobes is occupied by a very broad band of deep salmon-red. The crest is deep yellow, somewhat lined with red, and the side lobes well developed. The column is light yellow marked with red both in front and behind, and the column wings are entire, and margined with red. The lip appears free, but is very slightly adnate to the column at the base. It is a most brilliant hybrid, and probably the forerunner of a quite distinct type, for which the name Odontioda is proposed. Beside the brilliant colour and partially adnate lip, there is a trace of connexity about all the segments which also shows the influence of the Cochlioda parent. It is a little uncertain which was the seed bearer, for the cross was made both ways, and at first it was feared that the seeds had failed to germinate. M. Vuylsteke must be congratulated on his brilliant success.

ORCHIDS IN SEASON.

THE time seems to have come when we raise Lælio-cattleya × Schilleriana from seed at home instead of importing it from abroad. In an account of the collection of J. H. Grogan, Esq., Baltinglass, Co. Wicklow, given in our last volume, it was remarked (p. 229): "Seedlings of Lælia purpurata × Cattleya intermedia are getting strong, and should once more prove the parentage of Lælia-cattleya × Schilleriana. A first flower has now appeared and has been sent by Mr. Grogan. The front lobe of the lip is rich purple, and there is a similar spot on the disc, the rest of the flower being blush white, with a tinge of lilac on the front of the undulate side lobes. Two excellent forms of Odontoglossum crispum are also sent, one of them being only a shade under four inches in diameter across the petals. Both are from small plants. There are also flowers of O. triumphans which, curiously enough, appeared in the same batch. Lastly must be mentioned Dendrobium undulatum, with its bronzy brown, very undulate flowers.

Two handsome Orchids are sent from the collection of T. Statter, Esq., Stand Hall, Whitefield, by Mr. Johnson. Lælia-cattleya × Ingramii is a very finely developed flower, excellent in shape, and very richly coloured. The other is a beautiful form of L.-c. × Schilleriana called variety Statteriana. The sepals and petals are white, and the front lobe of the lip deep purple.

Three handsome Lælia-cattleyas are sent from the collection of the Rt. Hon. J. Chamberlain, M.P., Highbury, Birmingham, by Mr. Mackay. They are L.-c. × Hyeana, L.-c. × General Baden-Powell, and L.-c. × Mardelli, the latter being a very interesting example of one of Messrs. Veitch's early hybrids between C. Lueddemaniana and L.-c. × elegans. It bears a four-flowered inflorescence.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, during June, on the 14th and 28th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold two meetings at the Coal Exchange, Manchester, during June, and these, according to the new arrangements, will be held on Thursday, June 16th and 30th such meetings to be held in future two days later than the R.H.S. meetings in London. The Committee meets at noon, and the exhibits are open to inspection from one to three p.m.

We gave an account of Mr. Chatterjee's Orchid Show at Calcutta in our last issue (p. 142), and now we have received a copy of *The Empress*, published monthly at Calcutta, containing three fine half-page photographic illustrations, showing the hot-house where the Orchids were exhibited, the Central Rockery, with festoons of Orchids, and the group of Orchids and Palms shown by the Hon. A. A. Apcar. They are very tastefully arranged, and the exhibits are less crowded than at some of our home exhibitions, which is a decided advantage. Dendrobiums, Phaius, and Phalœnopsis are chiefly conspicuous in the illustrations.

A curious form of Odontoglossum triumphans has flowered in the collection of A. E. Wilson Browne, Esq., of Sutton Coldfield. The flower sent consists of three sepals and the lip. The petals appear to be absent, but are probably confluent with the sepals. It was purchased as O. Pescatorei, and it will be interesting to see whether the character remains constant.

A very beautiful flower of Cattleya Mossiæ Reineckeana is sent from the collection of J. Wilson Potter, Esq., of Croydon, by Mr. Young, which has an additional sepal and petal. The latter takes the place of the dorsal sepal, and only differs from an ordinary petal in being quite straight, while the dorsal sepal is replaced by two, which are situated on either side of the additional petal, and of course exterior to it. It enhances the beauty of the flower. It is really twin, as shown by the broadened column and pedicel.

A very beautiful shower bouquet of Orchids was presented to H.R.H. the Princess of Wales by the Mayor of Bradford's grand-daughter, on the occasion of the opening of the Cartright Memorial Exhibition in that city by the Prince and Princess of Wales on May 4th. A photograph of it has been sent by Messrs. Charlesworth & Co., together with one of a bouquet of Orchids which was placed by them in the Royal saloon carriage in the afternoon prior to the Royal visit. Both are extremely beautiful.

ORCHID PORTRAITS.

CHLORÆA CRISPA, Lindl.—*Bot. Mag.*, t., 7955.

CYMBIDIUM × BALLIANUM.—*Gard. Mag.*, 1904, pp. 244, 245, with fig.

CYMBIDIUM × LOWIO-EBURNEUM CONCOLOR.—*Gard. World*, 1904, pp. 443, 449, with fig.

CYMBIDIUM PARISHII VAR. SANDERÆ.—*Gard. Chron.*, 1904, i., p. 338, fig. 146.

CYPRIPEDIUM × ASHBURTONÆ EXPANSUM.—*Rev. Hort. Belge*, 1904, p. 97, with plate, fig. 2.

CYPRIPEDIUM × CHAPMANI.—*Rev. Hort. Belge*, 1904, p. 97, with plate, fig. 1.

CYPRIPEDIUM × GASTON BULTEL.—*Rev. Hort.*, 1904, p. 160, with plate.

CYPRIPEDIUM × LEDOUXIÆ.—*Journ. Hort.*, 1904, i., pp. 446, 447, with fig.

DENDROBIUM WILLIAMSONI.—*Gard. Chron.*, 1904, i., p. 341, fig. 149.

ODONTOGLOSSUM CRISPUM COOKSONIANUM.—*Gard. Mag.*, 1904, p. 343, with fig. VAR. JEANETTE, *l.c.*, p. 344, with fig. VAR. LUCIANI.—*l.c.*, p. 342, with fig. VAR. PREBENDARY BEVAN.—*Journ. Hort.*, 1904, i., p. 379, with fig.

ODONTOGLOSSUM PESCATOREI (in leaf-mould).—*Amer. Gard.*, 1904, p. 321, with fig.

ODONTOGLOSSUM × WALTONIENSE ROSEFIELDIENSE.—*Journ. Hort.*, 1904, i., p. 335, with fig.; *Gard. Chron.*, 1904, i., p. 331, fig. 144.

SACCOLABIUM BELLINUM.—*Journ. Hort.*, 1904, i., p. 423, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

I.B. Anguloa × dubia, Rchb. f. and Cleisostoma secundum, Rolfe.

E.P.C. Sarcanthus pallidus, Lindl.

E.T. Unavoidably postponed till next month.

W.B. Received with thanks.

Owing to pressure on our space, through the Temple Show, several articles and notes are unavoidably postponed.

We have received the descriptive Catalogue of Orchids of Messrs. Charlesworth & Co., Heaton, Bradford, for 1904, containing a most varied selection of species, varieties and hybrids.

THE ORCHID STUD-BOOK.—We cannot yet give the date of publication, but the work is being pushed on as fast as possible.

ERRATUM.

Odontoglossum × ardentissimum Gratrixiæ was inadvertently recorded as "Lælio-cattleya" at page 142 of our last issue. The error should be corrected.

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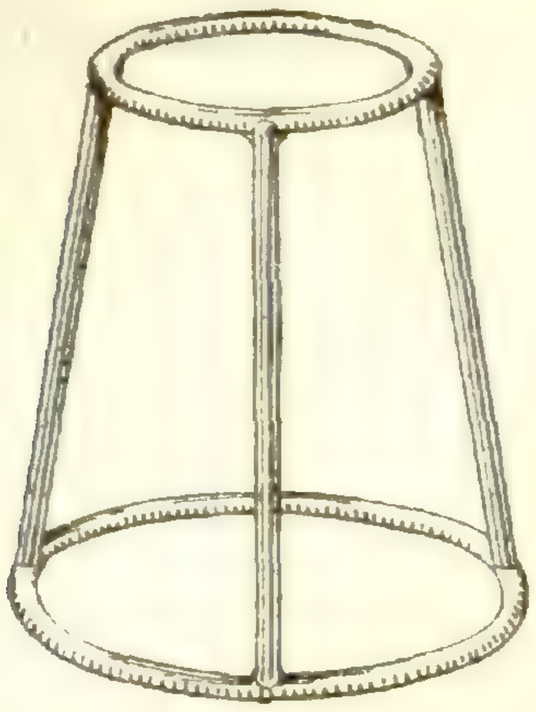

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NOTICE TO READERS OF

THE

ORCHID REVIEW

A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

Full details appeared in our March issue.

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The next MEETINGS of the COMMITTEE for the purpose of adjudicating upon the Orchids submitted will be held on June 16th and 30th, 1904, at 12 o'clock prompt. Open to Members from 1 to 3 o'clock p.m.

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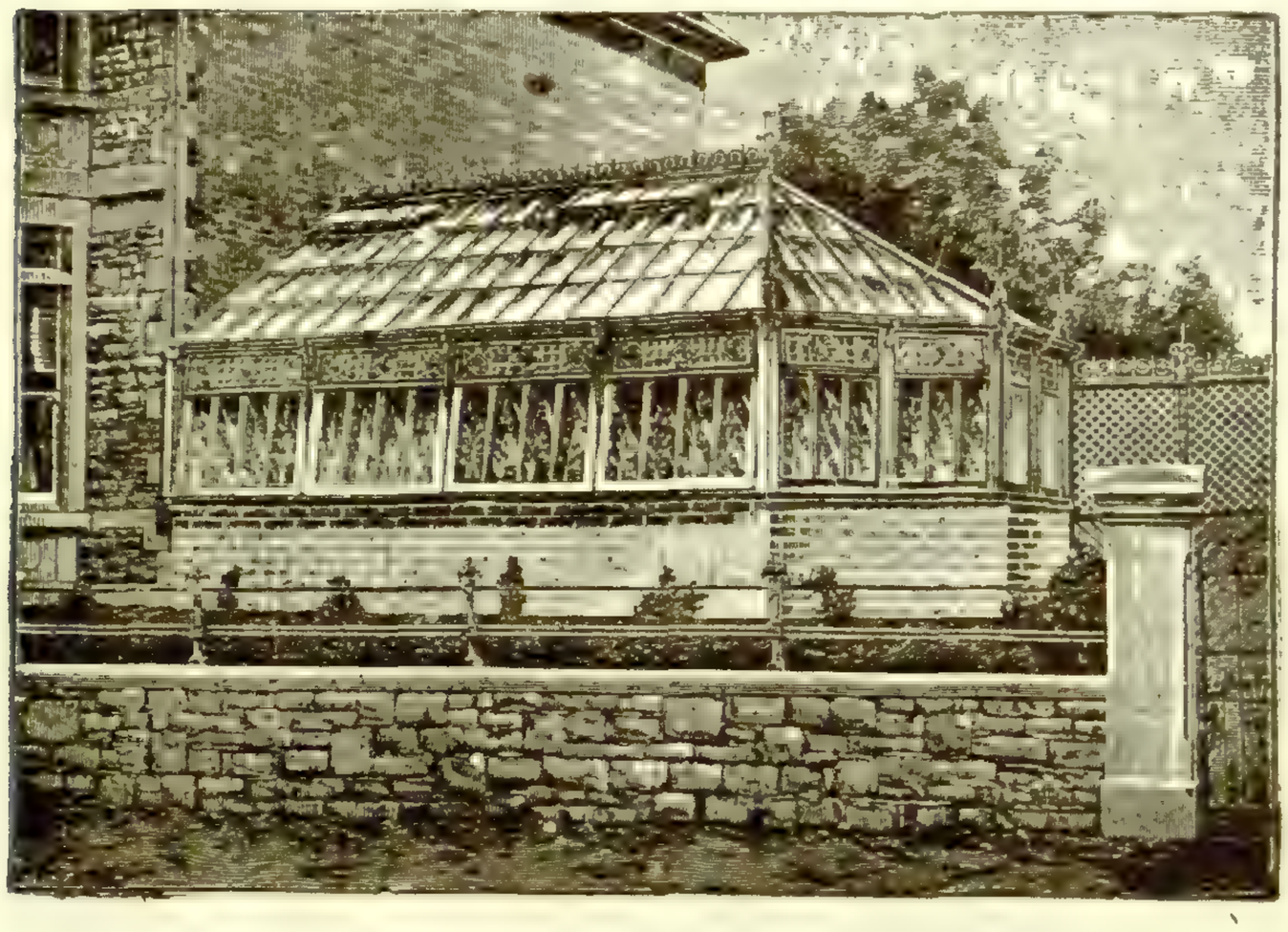

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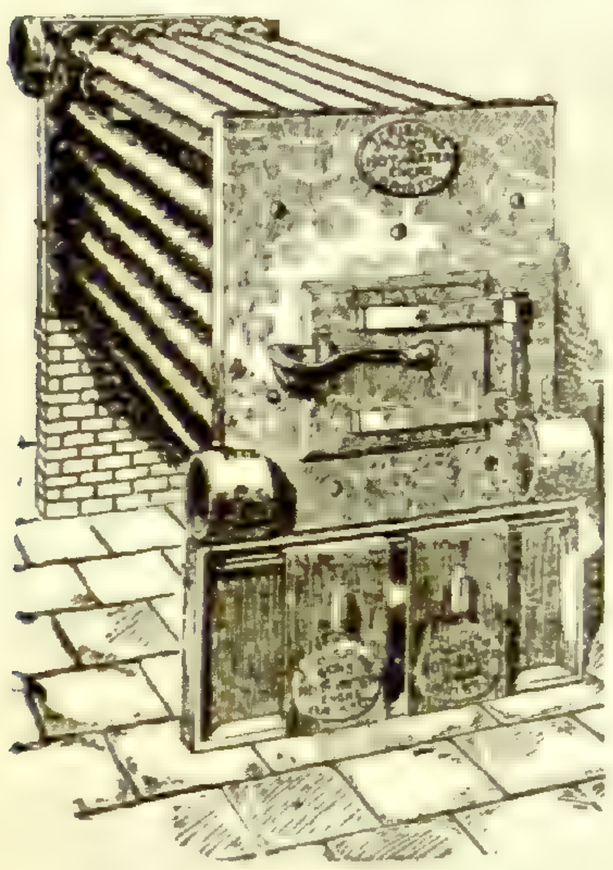

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XII.] *JULY*, 1904. [No. 139.

DIES ORCHIDIANI.

I WAS much struck with the beauty of the group of Odontoglossums from the collection of Norman C. Cookson, Esq., given at page 177, and with the note respecting their culture, because it enables one to judge of the results of the treatment. And the chief reason for mentioning this is the remarkably diverse opinions which continue to be expressed with respect to the use of leaf-mould. There can be no doubt that the illustration represents a series of remarkably well-grown plants, and we are told that the compost consists of fibrous peat and sphagnum, with an admixture of old oak and beech leaves, just beginning to crumble, to the extent of about a third, and that only a single crack is used at the bottom of the pot, over which is placed a layer two inches thick of old bracken rhizomes. This must be a very different compost from the sandy, soily-looking substance often supplied as Belgian leaf mould, and much more difficult to overwater. for all superfluous moisture would drain away as fast as poured on, as long as the drainage remained perfect. I wonder whether the "Cookson formula" was also used.

I have read with interest Mr. Orpet's remarks at page 164 in reply to my previous notes, and can readily understand that a leaf-compost—and indeed most others—would get waterlogged if watering was done with a hose in a haphazard way; and Mr. Orpet suggests that nine-tenths of the Orchids grown in America receive such treatment. The method suggests the survival of the fittest, and the perfect drainage provided by Osmunda fibre is likely to be beneficial under such conditions. Mr. Orpet describes how a collection of O. crispum in leaf-mould in a north house needed no water all the winter, neither did they make any growth, but since removing them to a house where the winter sun is available, watering about once a week, always using the Cookson formula, the miserable scraps became fine specimens. This seems to me an argument in favour of "perfect sunning, or maturation" rather than against the use of leaf-mould.

I note that Mr. Orpet (page 165) objects to my remark that the way the necessary food was supplied was a matter of secondary importance, and afterwards goes on to explain that all plant goods must be soluble. I was alluding to the fact that some growers use leaves which gradually decay under the action of water, thus giving up the food they contain gradually for the use of the plant, while others use an almost indestructible fibre, and make up for the diminished supply of food which it gives up by adding some plant food to the water, and yet both claim to get equally good results. I think this quite justifies the remark I made. In each case the food has to be taken up in solution, because it cannot be utilised in any other form.

It was rather interesting to find immediately following Mr. Orpet's remarks a note to the effect that a plant of Odontoglossum Pescatorei grown in leaf-mould for two years, and another grown in fern fibre, were exhibited at the Boston Gardeners' and Florists' Club by Mr. W. N. Craig, showing results in favour of the former treatment; aud the point was further emphasised in a subsequent note (page 337), which is interesting enough to reproduce here. It is as follows :—

" Permit me to make a correction in Mr. Craig's article in your last issue regarding Odontoglossum Pescatorei, which you illustrated. He stated that the small plant having six blooms had bulbs equally as good as the plant carrying forty-five blooms. The facts are that the bulbs of the former plant at the time of repotting two years ago, had a leading bulb 1 in. in length. The next year the leading bulb was $1\frac{1}{2}$ in., and the last bulb was $2\frac{1}{4}$ in. The large plant carrying the forty-five blooms started with a $1\frac{3}{4}$ in. bulb, and the first year in leaf mold the bulb made $3\frac{1}{4}$ in., while the flowering bulb this year was 4 1-16 in. For this reason we feel justified in claiming that leaf mold has worked a decided improvement in this particular plant, and I will add that in the other Odontoglossums treated in the same way, we find about the same condition of improvement. We are decidedly of opinion that leaf mould, *properly used*, is an excellent growing material for certain classes of Orchids, such as Odontoglossums, Laelias and some Cattleyas.

J. E. ROTHWELL.

Brookline, Mass."

I have not yet alluded to the exhaustive article by Mr. J. Wilson-Potter (pp. 106-110), which supplies a lot of important information as to the properties of leaf-mould, as well as the method of preparing it, and I should not be surprised to find that with an admixture of some hard fibre to keep the compost open the risk of overwatering would be greatly diminished.

Mr. Potter seems to hesitate in using the new compost for Odontoglossums, and he gives reasons for the same, though he intends to make fresh trials, and remarks "It is quite possible I may yet have all my established crispums in the new material." I have no doubt that the result of Mr. Cookson's experiments will receive careful consideration, and perhaps lead to further developments.

I am more than ever convinced that an admixture of oak and beech leaves to the compost used in potting epiphytal Orchids is beneficial, because by their gradual decay they supply the necessary plant food, and the experiments now in progress are likely to show us the best way of using them.

ARGUS.

ODONTOGLOSSUMS FROM STAMFORD HILL.

SEVERAL beautiful Odontoglossums are sent from the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill, N., by Mr. Thurgood. O. crispum Pittiæ is a fine form, slightly tinged with pink on the sepals, which organs bear a number of bright red-brown spots, arranged in two more or less transverse groups, while the spots on the sepals are mostly confluent into one very irregular central group. The lip is rather small and narrow, and bears many red-brown blotches on the disc. O. c. Princess Victoria has broad, beautifully undulate segments, with the red-brown blotches on the petals very regularly distributed, but those on the sepals and lip rather larger and somewhat irregularly and partially confluent. The lip is fairly broad and of good shape. Another form has the markings reddish purple, these consisting of a single blotch just below the middle and several small splashes round it, while the lip is prettily spotted. This, we think, is not yet fully developed. A fourth is a very fine flower, slightly tinged with blush, with a very few small red-brown spots on the segments, chiefly on the lip. O. triumphans, Rosslyn variety, is a very fine form, and remarkable for the very heavy rich brown blotches, the remaining ground colour being bright yellow. O. × loochristiense, Rosslyn variety, has the petals nearly white, with a single large dark brown blotch near the apex, and only a few small ones below, while the sepals are very heavily blotched with dark brown on a light yellow ground. O. × Wilckeanum The Alake is a very large form, with white ground, and the segments long, the sepals being very heavily blotched with deep red-brown, and the much toothed petals and lip bearing smaller blotches. Lastly may be mentioned two pretty forms of O. × Adrianæ, having a white ground colour, but one much more heavily blotched than the other. They form a very beautiful series.

VANILLA HUMBLOTII.

A VERY handsome species of Vanilla has just flowered in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking. It was at first supposed to be V. Phalænopsis, Rchb. f., and a note respecting it has appeared under this name (*Gard. World*, 1904, p. 481), but on comparison proves to be quite different, and I believe it to be V. Humblotii, Rchb. f., a species discovered in the Great Comoro Islands by M. Leon Humblot, and described in 1885 from dried specimens (*Gard. Chron.*, 1885, i, p. 726). Mr. White states that the Burford plant was sent from Madagascar by M. Hamelin, and is now flowering for the first time. It was received in June, 1900. The stem was then wired on to a teak raft, which was fixed into a large pot filled with sphagnum moss, and stood upright on the stage in the hottest house. The position and treatment seemed to suit it, as it soon began to grow vigorously, and during the first year it reached the top of the raft. The next growth was trained horizontally by a piece of string along the roof of the house, and it has now reached a length of 10 or 12 feet. The inflorescence was produced about four feet from the top. The species belongs to the leafless section of the genus, and is remarkably handsome, the flowers being large and bright yellow, with some bright brown markings on the front of the lip, and a mass of rosy crimson hairs in the throat, forming a very striking contrast. The stem is also remarkable, being glaucous-green in colour, and bearing numerous irregular blackish green warts, which give it the appearance of being "spotted like a snake." The stem is very stout at the base, measuring slightly over an inch in diameter, but more slender above, the upper internodes measuring $3\frac{1}{2}$ to 4 inches long by 5 to 6 lines broad. The glaucous colour is due to the presence of innumerable whitish, partially confluent dots on a dull green ground. An aërial root is produced at each node, at the side of the bract-like sheath, which represents the leaf in this section of the genus. The inflorescence is quite stem-like in shape and colour, except that the warts are less numerous. It measures 6 inches long, and bears 6 flowers, which open in succession. They are rather fugitive, showing signs of fading on the second day. The bracts are ovate-oblong, 6 to 10 lines long, and flesh-brown in colour; and the pedicels are 2 to $2\frac{1}{4}$ inches long. The flowers have an expanse of $5\frac{1}{4}$ inches, and the sepals and petals are spreading, the former being 10 to 11 lines broad, and the latter 16 lines. The colour is bright canary-yellow in front and cream-white behind. The lip is entire, apiculate, with undulate margin, $2\frac{1}{2}$ inches long by over an inch broad, and united to the column at the base, forming a tube 6 to 7 lines long. The brown band on the lip takes the form of a V-shaped marking, with the point downwards, while from either apex extends a broad zone of the same colour towards the

margin, the colour being here broken up in front into radiating lines. The throat is completely covered with long shaggy rosy crimson hairs, all more or less curved, and the lower somewhat retrorse. These hairs extend upwards on the disc in two diverging bands on either side of the V-shaped marking. The column is 10 lines long, and slightly curved. A figure has been prepared for the *Botanical Magazine*. Reichenbach does not mention the colour of the stem or flowers, and probably did not know them, but Humblot's dried specimens show traces of similar warts on the stem, and the flowers are similar, including the remarkable hairiness on the lip, hence the belief that the two are identical. V. Phalænopsis, Rchb. f., has smooth bright green stems, and smaller flowers, of different colour, besides having only two lines of slender hairs on the lip. It is a native of the Seychelle Islands.

R. A. ROLFE.

ORCHIDS FROM LLANDUDNO.

SEVERAL beautiful Odontoglossums are sent from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno (gr. Mr. Axtell). Five are excellent forms of O. crispum, of which three are about typical, having very broad, undulate, blush white segments, with a few brown spots on the lip. Another is equally good in shape, but the sepals and lip are prettily spotted with brown and the petals pure white, forming a most effective contrast. The remaining one has a great purple-brown blotch above the middle of each segment and a few small additional ones on the broad lip—a really striking flower. Two others are excellent forms of O. luteopurpureum, with the sepals wholly rich brown, except at the base and apex, and the petals and lip handsomely marked. O. Hallii leucochilum is a good example of this handsome variety. O. Lindleyanum is represented by a rather small dark form, apparently not fully developed. O. × Adrianæ is represented by a fine spike of thirteen flowers, having a very light yellowish ground colour, slightly tinged with rose, and a few red-brown. These are very irregularly distributed, in a few cases the petals being quite unspotted, in others bearing one or two small spots, while on the sepals and lip they are larger and sometimes more numerous. It looks very like the developed form of one noted at page 221 of our tenth volume. The remaining flower is very curious, having the sepals, petals, column, and crest of the lip resembling those of O. luteopurpureum in shape and colour, but the front lobe reduced to a narrowly oblong body. It may be a form of this species, being quite different from O. × mulus. An inflorescence of the interesting Eria sicaria, Lindl. is also enclosed, the flowers being remarkable for having the pedicels and outside of the sepals covered with a dense white tomentum. The rest of the flower is whitish yellow, with a dusky brown crest on the lip.

ODONTOGLOSSUM × CORADINEI MIRABILE.

WHEN the remarkable Odontoglossum crispum mirabile appeared in 1894, in the collection of Baron Schröder, it was not known that O. crispum and O. triumphans grew together. It was, however, clear that the plant was not a simple variety of O. crispum, and the alternative was that it must be a natural hybrid. It, however, came home as O. crispum, and the other parent must be something that grew with it. Nothing then known from Bogota agreed so well with the plant's characters, and I accordingly described it as O. × Coradinei mirabile (*O. R.*, ii. p. 198), though recognising that it was much finer than anything which had yet appeared. Just previously an Odontoglossum had been described and figured as a natural hybrid between O. crispum and O. sceptrum, under the name of O. × harvengtense (L. Lind. in *Journ. des Orch.*, v. p. 7 ; *Lindenia*, x., t. 678), but as on comparison I found unmistakable evidence that O. triumphans was one parent, I referred the hybrid to O. × excellens as a variety (*O. R.*, iii., pp. 112, 201). This plant flowered in the collection of the Compte de Bousies, at Harvengt. In 1898 an Odontoglossum, which had been artificially raised by M. Ch. Vuylsteke, of Loochristi, Ghent, from O. crispum ♀ and O. triumphans ♂ flowered for the first time, and was described under the name of O. × loochristiense (*O. R.*, vi., p. 41). A little later further evidence of O. × harvengtense came to hand in the shape of a plant which flowered with Messrs. Charlesworth & Co. out of an importation of O. crispum. It was described as apparently only a distinct form of O. triumphans, and the question was raised whether the latter grew anywhere intermixed with O. crispum (*O. R.*, p. 167), a point which was almost immediately answered in the affirmative by M. Fl. Claes (*l. c.*, pp. 327, 328). Then was noted the occurrence of O. × loochristiense as a wild hybrid, in the collection of W. Thompson, Esq., Walton Grange, Stone (*l. c.*, p. 355), and since then a good many others have appeared, doubtless from the locality where O. crispum and O. triumphans grow together. No less than nine named varieties were recorded in these pages in 1901 and six in the following year. We have also the information that it is a particular form of O. triumphans, known as variety latisepalum, that grows in the Bogota district with O. crispum (*O. R.*, x., p. 250). Lastly we have the record of an additional batch of artificially raised hybrids in the collection of W. Thompson, Esq., of Stone, five of which have already flowered (*O. R.*, xii., p. 61).

The new facts almost compel a reconsideration of the question, and it is now evident that O. × harvengtense and O. × loochristiense are forms of the same hybrid, and that the former is much the earlier name. The record of parentage must be amended, as it is clear that O. triumphans, not O. sceptrum, is the second parent. O. × Coradinei mirabile was again exhibited

by Baron Schröder at the recent Temple Show, and furnished an opportunity for further comparison in the light of the new facts. So far as I know nothing like it has since appeared, not even among white forms of O × Coradinei, some of which I have been able to compare with it. In shape and size it agrees better with O. triumphans than with O. Lindleyanum, and a comparison with their respective hybrids only confirms the impression. It appeared at about the same time as O. × harvengtense, and may well have come among O. crispum from the same region, and although I have not yet seen another form approaching it very closely, I suspect that O. × harvengtense var. mirabile is the name which it will ultimately have to bear. The figure of this handsome variety was repeated at page 12 of the present volume.

R. A. ROLFE.

EPIDENDRUM ADVENA.

EPIDENDRUM ADVENA is a Brazilian species which was described by Reichenbach in 1872 (*Gard. Chron.*, 1872, p. 1194), from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, but seems to have since been lost sight of. In looking up a figure in the late John Day's Orchid drawings (vol. xxxvii., t. 35) I came across an excellent figure, drawn on August 8th, 1883. The history is given as follows:—"A very nice Epidendrum, imported from Brazil by Messrs. Hugh Low & Co. The bulbs are 3 to 4 inches long by ¾ in. diameter, nearly cylindrical, somewhat sulcate in age. Leaves 2, ligulate, obtuse, very coriaceous, 12 to 14 inches long by ¾ to 1¼ broad. Scape 33 inches, with 3 or 4 branches, rather distant, bearing 5 to 7 flowers each. Flowers of this very scape were sent to the Professor, who gave the name as above." I instantly recognised an excellent drawing of E. osmanthum, Rodr., which was described nine years later, a plant now well known in cultivation, and it is rather curious that no one has since recognised it. Reichenbach described E. advena as "a beautiful species, with numerous unusually large flowers, nearly two-thirds the size of those of E. atropurpureum (macrochilum). Sepals and petals yellowish, with a full tessellation of radiating brown veins. Lip yellowish white with purplish streaks in middle line. Column green with yellow emarginate anther." No one seems to have been able to make out what the plant was, and Cogniaux, in his recent revision, enumerated it as a distinct species of Reichenbach of which the exact locality was unknown (*Mart. Fl. Bras.*, iii., pt. 5, p. 62). E. osmanthum is treated as distinct, but must now be regarded as synonymous. The history of the latter has already been given (*O. R.*, iv., p. 291). It is interesting to be able to clear up the history of another lost garden plant.

R. A. R.

LÆLIO-CATTLEYA × ELEGANS TRUE FROM SEED.

A most interesting flower of Lælio-cattleya × elegans has been sent by M. Ch. Maron, Brunoy, France. M. Maron states that it is from a seedling plant, and was obtained from a "good dark form in the way of Turneri, crossed by itself." We have not seen the parent form, but M. Maron's description fits the seedling very well, and it may be fairly described as having come true from seed. In not one single character of the flower can we find any trace of reversion to either of the parent species, which, as is well known, are remarkably distinct in almost every character, and therefore the more liable to show traces of reversion had such taken place. There are just a few very minute purple dots on the petals, as is often seen in forms of this hybrid. We should like to see a flower from the actual plant which bore the seed, if such is possible, and also one from any other seedling which M. Maron may have. It is not stated whether there is more than one. Coming at a time when the Mendelian hypothesis is engaging so much attention, it is a piece of important evidence that hybrids may and do reproduce themselves true from seed. Here was an opportunity for a re-combination of the "unit-characters" of the parent species, but there is no evidence that such has taken place.

R. A. R.

AN ORCHID AND A PHYLLOCACTUS IN A BEES' NEST.

WE have just dropped across the following curious note:—

"A short time since one of our native collectors brought in a large plant of Epidendrum Schomburgkii which was growing in the nest of a species of Trigona, one of the stingless bees, of which there are several species in Trinidad. The nest appears to be composed of propolis mixed with some kind of clay and woody matter, made into irregular chambers by the bees. . . . The roots of the Orchid appear to permeate the mass, and the aerial roots surround it, holding it together for the mutual benefit of bees and plant. The Cactus is a straggling kind of Phyllocactus bearing white flowers, which open during the night, as do many of our Cacteæ."—J. H. Hart, in *Trinidad Bulletin*, 1902, p. 458.

We do not know whether these bees remain in a nest for several successive years, for, if not, a more appropriate title would have been "A Bees' Nest in an Orchid." The Orchid at all events would be several years old. It would be interesting to know whether the occurrence is at all common, as in the case of ants tenanting the hollow pseudo-bulbs of Schomburgkia and Diacrium.

ODONTOGLOSSUMS FROM THE TEMPLE SHOW.

THE annexed illustration shows four handsome Odontoglossums which were exhibited at the recent Temple Show, two of them gaining Awards of Merit. The other two are striking novelties which on ordinary occasions could scarcely have been passed over by the Orchid Committee. Three of the plants were exhibited by M. Ch. Vuylsteke, of Loochristi, and the other (the lower left-hand one) by M. Jules Hye de Crom, of Ghent. The flowers were given to us by the exhibitors, and were photographed by Mr.

Fig. 30. O. × NITIDUM. Fig. 31. O. × VENUSTULUM.
Fig. 32. O. × JAPONAIS. Fig. 33. O. × CONCINNUM LÆTUM.

E. C. Hart, who has secured an excellent likeness in each case. The flowers are represented about two-thirds natural size.

O. × NITIDUM (fig. 30), the upper left-hand flower, was obtained from O. × Harryano-crispum crossed with O. × Wilckeanum, and thus is composed of half O. crispum and one-fourth each of O. Harryanum and O. luteopurpureum. It is exceedingly handsome, the shape being good, and the markings copious, regularly arranged, and rich in colour, and it is

difficult to see why it was passed over. The ground colour is white, very slightly tinged with yellow, and the blotches are deep red-brown. The crest is yellow, with numerous red-brown markings, and the column-wings are distinctly toothed. As regards shape nothing need be said, except that the segments are rather broader than they appear, because they had begun to recurve a little before the photograph was taken.

O. × VENUSTULUM (fig. 31), the upper right-hand figure, is said to have been derived from O. × Harryano-crispum crossed with O. × ardentissimum, but we should think O. × Rolfeæ a far more likely second parent, and for two reasons. O. × ardentissimum appeared in 1902, when it was the sensation of the Temple Show, and no hybrid from it could have reached the flowering stage in so short a period; besides which the new hybrid is much more like O. × Rolfeæ. A composition of half O. Harryanum and one-quarter each of O. crispum and O. Pescatorei is much more in accord with the plant's character than half O. crispum and one-quarter each O. Harryanum and O. Pescatorei; in fact, the latter represents the composition of the succeeding hybrid, though the result was arrived at by a slightly different method. To return to O. × venustulum, the ground colour is white, tinged with lilac towards the margin of the segments, while the markings are brownish purple. The disc is yellow, and here the markings are more brown. The column wings are slightly toothed.

O. × JAPONAIS (fig. 32), the lower left-hand figure, was derived from O. crispum album crossed with O. × Rolfeæ, and thus is composed of half O. crispum and one-quarter each O. Harryanum and O. Pescatorei. The ground colour is white, very slightly tinged with cream, and the markings are light yellowish brown. The disc is brownish yellow, and the column wings distinctly toothed. It is a very distinct and handsome hybrid, and was exhibited by M. Jules Hye de Crom.

O. × CONCINNUM LÆTUM (fig. 33), the lower right-hand figure, is said to have been derived from O. Pescatorei crossed with O. sceptrum, and thus must be regarded as a form of O. × amœnum, which was exhibited by M. Jules Hye de Crom at the Temple Show last year (*O. R.*, xi., p. 183). The ground colour of the flower is yellowish white, with the markings purple-brown and the crest light yellow. The column wings are shortly toothed. As in the preceding cases, nothing need be said about the shape which is well shown in the photographs, but we may call attention to the remarkably broad lip. It was exhibited by M. Ch. Vuylsteke, and received an Award of Merit.

Two others exhibited by M. Vuylsteke were O. × insignitum, a form of the preceding, with rather narrower, longer segments, and O. × percultum, recorded as O. × Rolfeæ × ardentissimum (which requires confirmation), having segments heavily blotched with brownish purple on a light ground.

ORCHIDS AT ROSEFIELD, SEVENOAKS.

SEVEN years have elapsed since we had the pleasure of seeing the very interesting collection of De Barri Crawshay, Esq., situated at Rosefield, Sevenoaks, and much has happened in the interval. Seedling Odontoglossums are now to the fore. At the period mentioned we wrote :—"Mr. Crawshay has twenty-eight seedlings in various stages, representing several distinct crosses (*O. R.*, v., p. 265). These—or the survivors—have since flowered, and been recorded, and at the present time there are hundreds, if not thousands, of others, of various sizes, and rarely have we met with a more striking example of progress in a proverbially difficult group. It was with the object of seeing this development that we accepted Mr. Crawshay's invitation to spend a week end with him, and we were both pleased and surprised at what we saw.

THE SEEDLING HOUSE.

We entered the house in which the seedlings are grown, and were confronted with a batch of eight hundred plants, representing numerous crosses, all potted off, and looking as thriving and healthy as possible. Some of these had already nice little bulbs, and had progressed about half way to the flowering stage. Others are smaller, and some recently pricked off, while on numbers of established plants suspended from the roof were batches of young seedlings, some germinating and others protruding their first leaf. In some cases they were coming up almost as thickly as the proverbial mustard and cress. And not only were they on the surface of the compost, but in some cases literally on the pots, where the seeds had been accidentally blown and afterwards germinated. In one case we noticed quite a batch growing below the rim of the pot, and had the curiosity to count them. In a small space three inches long by half an inch broad there were over thirty, and examination with a lens showed that they were securely anchored by little clusters of root hairs, while the first leaf was protruding in the usual way. Others were scattered about singly, so that the pots had to be handled with care for fear of crushing them. The green algæ on the pots seems to suit them, and one was actually seen growing on a small slimy mass as if it rather liked it. Algæ have sometimes been reckoned as among the worst foes of germinating Orchids, and the sight came as a surprise. In face of such a development it is difficult to realise how it was that Odontoglossums acquired the character of being difficult to raise from seed, and yet that is everybody's experience—even Mr. Crawshay's—at least until comparatively recently. It will interest a wide circle of readers to know

HOW SEEDLING ODONTOGLOSSUMS ARE RAISED.

We will commence by sowing the seed, for the operation of crossing is well understood, and capsules of good seed are easily obtained. As soon as the

capsule shows signs of maturity, by becoming yellow and beginning to open at the tip, it is cut, and the seed is scattered lightly on the surface of the compost of plants suspended from the roof. A small lead label is then clipped over the edge of the pot, containing a number, which agrees with the one in the record book, in which the history of every cross is carefully entered. The compost on which they are sown is practically fibrous peat (details are given later), as the partial surfacing of sphagnum is kept clipped short by a pair of fine pointed scissors as fast as it grows, to prevent it from choking the young seedlings, and in this care has to be taken not to damage the latter. From the moment the seed is sown the compost is never allowed to get dry for a moment, and this condition is easily secured by the use of a fine sprayer as often as necessary. Roller blinds of thick canvas are used for shading, but only when necessary, as Mr. Crawshay is an advocate of giving plenty of light. Ventilation and damping down of course receive careful attention, the aim being to keep a moist, genial atmosphere without extremes of temperature either way. Germination takes place quickly, if the seed is good and the conditions right, but the young seedlings are not touched until they show the first true root. They are then pricked off on to pots of new compost, over which is placed for a few days an inverted glass pot, thus helping to preserve a moist atmosphere until they are established, at the same time affording ventilation through the central hole. These pots are practically bell glasses with a hole in the centre, and in practice the insides are seen to be constantly covered with dew. After this the seedlings are potted on, as necessary, and treated like established plants. Of secret there is none, the whole thing resolves itself into providing the necessary conditions by constant care and attention, and anyone who can grow Odontoglossums well may hope to succeed. This, of course, does not apply to those who can merely keep them alive, and it should always be remembered that a little temporary neglect, which might leave no visible effect on established plants, may ruin a batch of delicate seedlings. "Always remember that they must be treated like babies" is a motto for those who wish to raise seedling Odontoglossums.

THE RESULTS AIMED AT.

The object in view is primarily to raise a number of handsome garden plants, but at the same time Mr. Crawshay hopes to throw some light on those beautiful wild forms known as blotched and spotted crispums, some of which, though not belonging to recognised natural hybrids, are yet suspected to be of partially hybrid origin. There are seedlings from about sixty choice crosses, and a few of them should throw light on what may be taking place in Nature, though the majority are from forms which do not grow together in a wild state. One point which these experiments are expected to elucidate is how far reversion

takes place in intercrossed forms. It may be remembered that O. × Wilckeanum crossed with O. crispum yielded an unspotted form undistinguishable from the latter, and that the result of O. crispum crossed with the blotched O. c. Crawshayanum was a poor unspotted O. crispum, and it is considered that if reversion of this kind takes place at all it will be specially demonstrated by the intercrossing of the finest varieties, which is now being carried on. Seedlings of O. Hallio-crispum re-crossed with O. crispum are interesting in this connection; also a yellow loochristiense crossed with O. crispum aureum, and O. crispum Raymond Crawshay crossed with O. triumphans Lionel Crawshay, and the reverse cross, all of which we noted. Blotched forms of O. crispum have also been intercrossed successfully. Another interesting point that occurs to us is that it will show the amount of variation between seedlings from the same seed-pod, a point which should be specially useful in the study of natural hybrids, and especially so if the parents happen to grow together in a wild state. O. × Adrianæ has been crossed with O. crispum and O. × Andersonianum, and it will be extremely interesting to see the result. We may mention a few more of the crosses which we noted. O. Hunnewellianum × Harryanum was germinating in profusion, also O. Pescatorei × Harryanum, which is considered one of the most prolific of crosses. O. Pescatorei × crispum aureum had only been sown three months, but were already producing the first leaf, and a spotted form of the same crossed with a blotched crispum may repeat the history of O. × ardentissimum. A dark O. triumphans × luteopurpureum Vuylstekeanum should produce an interesting hybrid, also O. nævium × crispum Lehmanni.

SEED-PODS.

In the general collection we noticed many good capsules in various stages, and some recently fertilised flowers, estimated at about a hundred in all, and it is significant that most of the latter had been crossed with the brilliant Cochlioda Nœtzliana, which is now likely to be in great demand for hybridising. O. luteopurpureum Vuylstekeanum and O. crispum Raymond Crawshay crossed with the Cochlioda should give some striking results if seedlings are obtained. We must pass along to the

ESTABLISHED PLANTS.

The longest Odontoglossum house is computed to contain over 2,500 plants, and some good things were noted in flower. First may be mentioned a large number of typical O. crispum, and these we learnt were from a batch of imported plants, and most of them were to be sent away in a few days. A process of selection is constantly being carried on, quantities of imported plants being purchased and established, and when they bloom, those that do not come up to the standard are at once disposed of, sometimes only a very small percentage being retained. Others in bloom included a very

fine O. luteopurpureum, bearing two spikes of ten and eleven flowers, the beautiful yellow variety Vuylstekeanum, a good spotted O. × Andersonianum with the lip shaped as in O. × mulus, O. triumphans, O. crispum Theodora, with ruby-purple blotches, a very prettily spotted O. × Adrianæ with white ground, a good form of O. × Coradinei with white ground and purple spots, also yellow forms, one of them bearing a spike of twelve flowers with a very broad lip. This plant is used for hybridising, and is said to bear seed-pods every year. Other interesting things were O. apterum Crawshayanum, a very heavily spotted form, O. Hunnewellianum, two plants of the beautiful O. nævium, O. polyxanthum, O. Hallii, O. triumphans, O. Rossii, a remarkably fine form of O. sceptrum, and O. Uroskinneri rosefieldiense, a very dark and richly coloured variety. The variety album of the latter was bearing a capsule, with a curiously long pedicel, as the result of crossing with O. × Vuylstekei, but Mr. Crawshay states that this species is no good as a pollen parent. We noted also a fine example of Oncidium crispum, and the richly coloured Cochlioda Nœtzliana. A few interesting things of which the flowers were not expanded were O. × Hallio-crispum with a spike of 13 buds (this was Mr. Crawshay's first seedling to flower), O. × loochristiense Theodora with 14 buds (said to have a white ground), O. × elegantius bearing a panicle with six side-branches, and O. × Crawshayanum. This is said to be a difficult plant to raise, and it may be noted that one seedling most resembles O. Harryanum in habit, the other O. Hallii.

CULTURE.

The collection generally is in excellent condition, and it may be added that Mr. Crawshay pointed out his first O. crispum, purchased in bloom in February, 1881, a very ordinary form, but which he would not part with on any consideration. His first Odontoglossum was purchased on December 21st, 1880, as an imported O. crispum, but it proved to be O. luteopurpureum when it flowered. It is still in good health, and Mr. Crawshay remarked that it once produced an inflorescence of 54 flowers. The plants are grown on open stages, beneath which is fixed a solid stage covered with broken coke, which is always kept wet. Some of the plants are stood on earthenware pedestals, but the centre is hollow, and as crocks are not used in the pots air can always get at the roots. Bracken rhizomes are used for drainage, a thick layer being placed in first, and the compost consists of fibrous peat, with a little sphagnum moss, and a few whole oak and beech leaves. These are not broken in any way, and being used in small quantity they are always separated by some peat fibre. They then decay gradually, and feed the plants, while allowing water to pass away freely. Such a compost cannot be overwatered. The floors are of brick, and the side ventilators are shutters in the walls. Thick canvas on rollers is used for

shading. Under such conditions the plants thrive exceedingly, but it was pointed out as a curiosity that the best growing position is about three feet from the door at the upper end of the house (this being built on a gentle slope).

CULTURE IN GLASS POTS.

One point struck us as distinctly novel, and that is that some of the plants are cultivated in glass pots, simply differing from ordinary pots in the materials of which they are constructed. Thus the conditions only differ in the admission of light to the roots, and one could see exactly what was going on inside, as in the case of bees in a glass hive. One could see the interstices between the bracken rhizomes, and under the influence of air and light the moss was actually growing below the compost, and the roots looked thoroughly healthy and had a greenish tinge. The glass is non-absorbent, and it is found that the plants need water much less frequently. A fine plant of O. crispum, which had been in glass for eleven months, was carrying a spike of fourteen fine flowers. O. × Coradinei Crawshayanum had carried three spikes, with an aggregate of fifty-one flowers. One plant, the second placed in glass, produced a spike of seventeen flowers, of which three were on a side branch. It consisted at first of two imported bulbs, and the new growths successively improved, while the last produced a double break besides the fine spike mentioned. It is always growing, and is a very pretty plant. This is not a mere fad; so satisfied is Mr. Crawshay with the result that he is having a lot of glass pots made, though at present they are dearer than ordinary pots, having to be made specially. Their use as bell glasses has been already mentioned.

INDIVIDUAL PECULIARITIES.

It is curious to note that certain plants have their individual peculiarities. One plant of O. × mulus is a most robust grower, and has perfect leaves on four successive years' bulbs (Mr. Crawshay once had five years' leaves on another plant). Another has been in the collection since 1884, but has never flowered, and it had eleven bulbs when bought, none of which had flowered. It never rests; no sooner has one bulb finished than another growth begins. Mr. Crawshay has tried all ways to make it flower, but without success. Once he broke out three successive growths from the same bulb, and as it could not make another it simply broke from a back bulb, but no spike came. A piece has been sent away, but with no better result. It is believed to be a hybrid. Another curiosity pointed out was a plant of O. crispum producing spikes on two successive bulbs, the one from last year's bulb remaining dormant until now, a thing Mr. Crawshay had never seen before. A few plants were noticed having very purple leaves, particularly O. c. Venus, and this is partly attributed to plenty of light, but one plant is said to have the leaves always purple,

though the flowers are white. One seedling, by the way, is ten years old, but has not yet flowered. It grows very slowly, and has five remaining bulbs. Another is nine years old, and as it is from the spotted form which reverted, its behaviour is being watched with interest.

SECONDARY HYBRIDS.

We have several times urged raisers of Odontoglossums to intercross the species and hybrids from the Bogota district, especially with the view of showing what secondary hybrids are like. We find that Mr. Crawshay now has several of these, including O. × Andersonianum crossed with O. × Denisonæ and with a blotched O. crispum, also O. × Adrianæ, O. × Coradinei, and O. × Denisonæ all crossed with blotched crispums. The result of these crosses will be awaited with interest, as there is at least the possibility that some of them have occurred in a wild state.

OTHER ORCHIDS.

Our notes have been chiefly about Odontoglossums, which are prime favourites here, but there are others respecting which a few words must be said. One specially interesting plant in the seedling house is a seedling of Promenæa stapelioides ♀ × P. xanthina ♂, which we strongly suspect will prove the parentage of a natural hybrid. The seed was sown in February, 1902, in the warm house, but none came up there, this one seedling being afterwards found in the cool house, in the crown of an Adiantum, where it must have been blown. In the Cattleya house we noticed Odontoglossum citrosmum carrying a fine spike, also good plants of Miltonia spectabilis Moreliana, M. Regnellii, and M. cuneata. Mr. Crawshay has tried year after year to cross these with Odontoglossums, but without success. We also saw good plants of *Zygonisia* × Rolfei, *Zygopetalum* × Gottei, and the seedling *Z.* intermedium ♀ × *Z.* maxillare Gautieri ♂, which took twenty years to flower. It however once met with an accident which nearly killed it. The type plants of Lælia × Crawshayana are also thriving. A few other well-known things must be passed over. A fine series of Orchis maculata varieties were flowering outside, making a brave show, with a few O. latifolia, and some sturdy Listera ovata.

Our notes on Mr. Crawshay's fine series of dried flowers and paintings must be held over for the present, as these notes are already longer than was intended, yet many interesting details have been omitted. But the seedling Odontoglossums were an education, and we believe that the details respecting them will be read with universal interest. We cannot conclude without a tribute to the ability of Mr. Stables, Mr. Crawshay's excellent gardener. The results speak for themselves. Mr. Crawshay thinks of building another house this autumn, and judging by what we saw of the seedlings he will soon need it. And when they begin to flower there will be something to say.

ODONTIODA × VUYLSTEKEÆ.

We are now able to give a photographic illustration of the remarkable Odontioda × Vuylstekeæ, which created such a sensation at the recent Temple Show, together with its two parents. It was described in detail at page 189 of our last issue, and the illustration, though necessarily failing to convey an idea of the colour, gives a very graphic idea of the characters of the flower. It is represented four-fifths natural size. The resemblance to the Odontoglossum parent is at once apparent, and nothing further need be said about the shape. It is in colour where the resemblance to the Cochlioda chiefly comes in. The ground colour may be described as light

Fig. 34. ODONTIODA × VUYLSTEKEÆ.
Fig. 35. ODONTOGLOSSUM PESCATOREI. Fig. 36. COCHLIODA NŒTZLIANA.

cream-yellow, but is largely obliterated, except on the lip, and in the curious ring round the large basal blotch on the sepals and petals. This blotch may be described as deep salmon-red, the remaining part being strongly suffused with rose. The blotches on the lip are deep salmon-red, and the crest deep yellow, with the teeth more developed than in O. Pescatorei. Of course, the Pescatorei parent may have been quite a different variety from the one figured. M. Vuylsteke must be congratulated on his

success. This brilliant acquisition received the double award of a First-class Certificate and a Silver-gilt Lindley Medal. We have since seen a photograph of the plant, which shows two pseudo-bulbs, each bearing three leaves, and a young growth. The second bulb is large, and most resembles O. Pescatorei in character, a remark which also applies to the foliage. The photograph was taken by Mr. E. C. Hart.

ODONTOGLOSSUM PESCATOREI (fig. 35) is one of the best known species in the genus, and has been cultivated for upwards of half a century. It was discovered by Funck and Schlim, in January, 1847, near Pamplona, in the province of Ocana, and was described by Reichenbach two years later under the name of O. nobile (*Linnæa*, xxii., p. 850). Plants were sent to the establishment of M. Linden, at Brussels, where it flowered for the first time in Europe in 1851. Whether its identity with O. nobile was then known is uncertain, but it received the name of O. Pescatorei, Linden, under which it was figured and described by Lindley (*Paxt. Fl. Gard.*, ii., t. 90) in 852. It afterwards formed the subject of the first plate of *Pescatorea*, and has been known by its later name ever since. It is now known to be common in the province of Ocana, and is said to be spread over an area of about thirty square leagues, occupying a vertical range of between 6,000 ft. and 9,000 ft. elevation. It is a very beautiful species, but far less variable than O. crispum, and not nearly as widely grown. The form figured has a few small spots on the petals, and is from the collection of R. G. Thwaites, Esq., of Streatham.

COCHLIODA NŒTZLIANA (fig. 36) has proved to be a very brilliant introduction. It first appeared at a meeting of the R.H.S. on November 11th, 1890, when it was exhibited by Messrs. Linden, of Brussels, under the name of Odontoglossum Nœzlianum, and received a Botanical Certificate. It was described as " a dwarf, delicate-growing novelty, with small circular bright scarlet flowers " (*Gard. Chron.*, 1890, ii., pp. 570, 602). It was at once apparent that it was not an Odontoglossum, and consequently it was transferred to Cochlioda (Rolfe in *Lindenia*, vi., t. 266). The species is a native of Northern Peru, and was discovered by M. Jean Nötzli, who sent plants to Messrs. Linden. Some time afterwards it was also introduced by Messrs. Charlesworth, Shuttleworth & Co. It was named after its discoverer, though from a mistake in spelling his name the specific name was at first given as Noezliana, which was corrected when discovered (*O. R.*, ii., p. 268). The fact of a hybrid being successfully raised from it is interesting, in view of a note which appeared in these pages in 1899, in an account of the collection at Walton Grange :—" It is curious to note that for three years efforts have been made to obtain capsules of this plant, many crosses being tried, but without success. Two pods only formed, but these ultimately

went off" (*O. R.*, viii., p. 199). There is also a supposed natural hybrid between it and C. vulcanica, namely C. × miniata, L. Lind. (*Lindenia* t. 562). It has been known for some time that the two species grew in the same region. C. Nœtzliana is an easily grown and most brilliant little plant, and is now likely to be in great demand for hybridising.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Drill Hall, Buckingham Gate, Westminster, on June 14th, when there was a fine display of Orchids, better than usual at the meeting succeeding the Temple Show. Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), staged a fine group of well-grown plants, to which a Silver-gilt Flora Medal was awarded. At the back were some good Sobralia macrantha, including two well-flowered examples of the white variety Kienastiana, the remainder being made up of a fine series of Cattleya Mossiæ varieties, three good C. Mendelii, C. × resplendens, two good C. Warneri, some good Lælia purpurata, L. × cinnabrosa, L.-c. × elegans superba, L.-c. × Hippolyta. Phalænopsis amabilis, P. speciosa, P. Lueddemanniana, a fine specimen of Cœlogyne pandurata bearing three spikes and an aggregate of thirty-one flowers, Cypripedium bellatulum and its variety album, C. Godefroyæ, C. × W. H. Young, and others, Brassavola Digbyana, the fine Miltonia vexillaria G. D. Owen, and M. v. Empress Victoria Augusta.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent a few rare Orchids, including a well-flowered plant of Dendrobium × formoso-Lowii, having cream-white flowers with yellow filaments on the disc, the handsome Odontoglossum crispum pardalinum, with rich claret-red blotches, Cypripedium Stonei, and a very fine spike of C. S. platytænium, together with a very strong branched spike of Phalænopsis amabilis. Cultural Commendations were given to the two latter.

The Hon. Walter Rothschild, M.P., Tring Park (gr. Mr. Dye), sent an inflorescence of Epidendrum confusum, a near ally of E. fragrans, with much larger flowers, and Restrepia leopardina rosea, the latter, which had the lateral sepals densely spotted with rose on a whitish ground, receiving a Botanical Certificate.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent a fine specimen of Odontoglossum crispum cultivated in a glass pot, which had made a very large bulb and a new growth a foot high, as well as a spike of thirteen fine flowers, since July last. He also sent the densely spotted O. apterum Crawshayanum, and O. Uroskinneri rosefieldiense, a very richly coloured variety.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), sent a fine form of Lælio-cattleya × Herode (L.-c. × elegans × C. × O'Brieniana).

H. S. Goodson, Esq., West Hill, Putney (gr. Mr. Day), sent Bifrenaria tyrianthina Goodsonæ, a light purple variety.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent a well-flowered plant of Restrepia elegans.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent a small group, consisting of a good form of Trichopilia coccinea, T. suavis alba, a fine Odontoglossum citrosmum, Rosefield var., bearing many spikes of light rose flowers, together with good forms of Cattleya Mossiæ and Mendelii, and C. × Faerie Queen, having yellow sepals and petals and some purple marking on the lip.

R. G. Thwaites, Esq., Streatham (gr. Mr. Black), showed Odontoglossum Pescatorei Grand Duchess, an extremely fine variety.

Messrs. Sander and Sons, St. Albans, staged a very fine group, consisting largely of hybrids, which gained a Silver-gilt Flora Medal. There was a remarkable series of Lælio-cattleya × Martinetii, consisting of over fifty plants, ranging in the colour of the segments from deep bronze and yellowish to rich rose on the one hand and white on the other, while the lip varied from the darkest purple to nearly white, with a few purple markings in the throat. L.-c. × Canhamiana was represented by a smaller series also showing much variation. Other interesting things were Eulophia Lubbersiana, a West African species, with prettily variegated leaves, Lælia × Yula, Miltonia vexillaria Regina, a fine white with pink centres to the sepals and petals, and the deep rose M. v. Empress Victoria Augusta. An Award of Merit was given to Lælio-cattleya × Martinetii var. Sunrise, a very richly coloured form.

Messrs. James Veitch and Sons, Chelsea, also staged a very fine group, which gained a Silver Flora Medal. It contained a fine series of Cattleya Mossiæ forms, white and coloured, C. M. Rosalind being a beautiful white, slightly flushed with pale pink on the front of the lip, some good Oncidium divaricatum, Cœlogyne Dayana, Epidendrum prismatocarpum, &c., also a fine lot of hybrids, the more noteworthy being several good L.-c. × Canhamiana and L.-c. × Aphrodite, L.-c. × Ascania, L.-c. × Lycidas, L.-c. × Acilia, Cattleya × Niobe, Lælia × Pacavia, Cypripedium × Ajax, &c.

Messrs. Stanley, Ashton and Co., Southgate, received a Silver Flora Medal for a fine group, including some good Lælia purpurata, a fine series of Cattleya Mossiæ, with the varieties Wageneri and Reineckeana, Oncidium curtum, O. flexuosum, O. varicosum, some showy Masdevallias, Odontoglossum luteopurpureum, some good forms of O. crispum, &c.

Messrs. Hugh Low and Co., Bush Hill Park, staged a good and varied group, which received a Silver Banksian Medal. It contained a noble

specimen of Cattleya Mossiæ, bearing about fifty flowers, C. M. Wageneri, C. intermedia alba, C. Warneri, Masdevallia Carderi, Gongora bufonia, the rare Lycaste tricolor, Dendrobium Lowii, Bulbophyllum Lobbii, and its variety claptonense, the latter having larger flowers, mottled with brown on the segments, Cœlogyne asperata, Cypripedium Lawrenceanum Hyeanum, C. callosum Sanderæ flowering among imported plants, C. × Baron Kuroki (Lowianum × insigne Chantini), a pretty green flower, blotched and lined with chocolate brown on the dorsal sepal and spotted on the petals, and others.

Messrs. B. S. Williams and Son, Upper Holloway, also gained a Silver Banksian Medal for a good group, containing forms of Odontoglossum crispum, Lælio-cattleya × Canhamiana, L.-c. × Edouard André, Cymbidium Lowianum, Cypripedium × Gowerianum magnificum, C. × Harrisianum superbum, Lælia purpurata, some showy Cattleyas, &c.

Messrs. A. J. Keeling and Sons, Westgate Hill, Bradford, sent Masdevallia × Bocking Hybrid, a fine M. coccinea, Lælia × Vinesiæ, &c.

Mr. H. A. Tracey, Twickenham, showed Cattleya Mossiæ Pearl, a pretty blush white form, C. × Faerie Queen var. Goodsonæ, a pale yellow flower marked with rose purple on the lip, and Lælio-cattleya × tyntesfieldense.

AT the meeting held on June 28th—the last, it is believed, that will be held at the Drill Hall—there was again a very good display of Orchids, and Medals were awarded to six groups.

The Right Hon. Lord Rothschild, Tring Park (gr. Mr. Dye), staged a remarkable group of Masdevallias, and other things, which gained a Silver Flora Medal. The Masdevallias comprised over fifty species, varieties and hybrids, some of them in several examples, the more noteworthy being forms of M. Chimæra, M. ignea, M. Davisii, M. Carderi, M. simula, M. O'Brieniana, the brilliant M. racemosa, M. gemmata, M. radiosa, M. campyloglossa, M. caudata, M. × Rushtoni, M. × Cassiope, M. × Hebe, M. × Courtauldiana, M. × Henriettæ, M. × Geleniana, and M. × Bocking Hybrid, other interesting allies being Physosiphon Loddigesii, Scaphosepalum punctatum, S. gibberosum, and S. ochthodes. The group also contained Aerides japonicum, Disa racemosa, Lælio-cattleya × Aphrodite, L.-c. × Mauve Queen, L.-c. × Charles Linnæus (L.-c. × Gottoiana × C. Warneri), and others. L.-c. × Dominiana, Tring Park var., received an Award of Merit, while Botanical Certificates went to Saccolabium gracile a small Ceylon species, and Cryptophoranthus Lehmanni.

Mr. Ernest Hills, Penshurst (gr. Mr. G. Ringham), staged a group of extremely well-grown Miltonia vexillaria, to which a Silver Banksian Medal was given.

J. Bradshaw, Esq., Southgate, sent the pretty Lycaste tricolor, and a white form of it.

N. C. Cookson, Esq., Wylam-on-Tyne (gr. Mr. Chapman), showed the interesting Cypripedium × vexill-Io, and Odontoglossum crispum Britannia, a fine form heavily blotched with purple-brown, and suffused with purple at the back of the segments.

C. J. Lucas, Esq., Horsham (gr. Mr. Duncan), sent a light form of Lælio-cattleya × Martinetii.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed Lælio-cattleya × Pallas Westfield variety, a richly-coloured form, and Cattleya × Mossiæ Miss Etheldreda Harting, a fine white variety with a few pale purple markings in front of the yellow disc.

Messrs. Sander and Sons, St. Albans, staged a fine group, which received a Silver Flora Medal. It contained a fine specimen of Dendrobium superbum, Acineta Humboldtii, and various other showy things, together with Lælia × cinnabrosa, L. × Yula, Lælio-cattleya × Acis, L.-c. × Duchesnei, L.-c. × bletchleyensis, some good L.-c. × Martinetii, &c.

Messrs. James Veitch & Sons, Chelsea, staged a fine group, which gained a Silver Banksian Medal. It contained the beautiful Cattleya Mossiæ Wageneri, C. × Eros, a beautiful white form of Sobralia × Veitchii, Lælio-cattleya × Vesta, L.-c. × Aphrodite alba, L.-c. × Canhamiana, L.-c. × eximia, L.-c. × Wellsiana, L.-c. × Dominiana langleyensis, L.-c. × Martinetii, &c.

Messrs. Hugh Low & Co., Bush Hill Park, also obtained a Silver Banksian Medal for a beautiful group, including some good Phalænopsis Aphrodite, P. amabilis Rimestadiana, P. × leucorrhoda, a richly-coloured Lælia tenebrosa, Masdevallia melanoxantha, Oncidium divaricatum, Cattleya intermedia alba, C. Mendelii with sixteen flowers, some good Lælio-cattleya × Canhamiana, L.-c. × Arnoldiana, &c.

M. Ch. Vuylsteke, Loochristi, Ghent, received a Silver Banksian Medal for a small group of choice Odontoglossums, including two handsome O. × ardentissimum, O. × bellatulum, O. × concinnum, O. × mirificum, and a good O. × Harryano-crispum.

Mr. H. A. Tracy, Twickenham, received an Award of Merit for a white Cattleya called C. Mossiæ alba Tracy's var.

Messrs. Stanley, Ashton & Co., Southgate, showed a plant of Scuticaria Dodgsoni.

At the commencement of the meeting, pursuant to notice, Norman C. Cookson, Esq., moved :—"That the resolution disqualifying plants that have been disbudded be rescinded, and that in future reasonable disbudding be permitted, bearing in mind the strength and size of the plant and general appearance of the spike." After some discussion, an amendment was moved

that the existing rule be retained. On being put to the vote, the voting was equal, eleven voting for and eleven against the motion, and the Chairman thereupon gave his casting vote in favour of the amendment.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on June 16th, when there was a choice, if rather small, display of Orchids.

W. Thompson, Esq., Stone (gr. Mr. Stevens), staged a small group of choice well-grown Odontoglossums, including a good plant of the fine O. Pescatorei giganteum, O. × ardentissimum var. Fascinator, and O. × Crawshayanum, Thompson's var., the two latter each receiving an Award of Merit. A splendid example of Cochlioda Nœtzliana bearing nine spikes was awarded a Cultural Certificate.

J. Leeman, Esq., Heaton Mersey (gr. Mr. Edge), received a First-class Certificate for Odontoglossum crispum var. Campania, a handsome form having roundish rich red-brown blotches regularly arranged on all the segments.

Messrs. Sander & Sons, St. Albans, staged a fine group of showy hybrids, consisting chiefly of Lælio-cattleyas, which gained a Silver-gilt Medal. A First-class Certificate was given to L.-c. × Martinetii var. Jupiter, a very fine variety having the sepals and petals rich bronzy brown, and the lip extremely dark, and Awards of Merit went to the varieties Saturn and Sunset, the former having dark rose segments, with some purple veining on the lip, and the latter bronzy yellow sepals and petals, and a claret-purple lip with a yellow disc.

Messrs. Hugh Low & Co., Enfield, sent Cypripedium × Baron Kuroki, said to have been derived from C. insigne Chantini × C. Lowianum, but the Committee thought there was a distinct trace of C. Rothschildianum in the flower, and owing to the doubt respecting the parentage no award was made.

Messrs. A. J. Keeling & Sons, Bradford, and Mr. D. McLeod, Chorlton, each sent a small group, to which a Vote of Thanks was accorded.

DENDROBIUM FALCONERI.

DENDROBIUM Falconeri is a very distinct and beautiful plant, differing from all others in the genus in habit, and requiring special culture. The growth consists of large numbers of small stem-like pseudo-bulbs, only a few inches in length, each rooting separately from its base. To allow these to ramble away at will without anything tangible to cling to is to court failure at the outset, for each one should be within reach of something that the roots can lay hold of.

I have tried it in various ways, such as placing a number of rough oak stakes in the pots, and disposing the stems as regularly as possible among them, tying the strongest and leaving them to take hold where they can, wiring to cork blocks and to pieces of tree-fern stems, and all have been satisfactory when once the stems have taken hold. But in no case must much compost be given, for the roots cannot take to it, and it lies as a wet mass about them, to their detriment. An old-fashioned and bad plan of growing this Orchid was wiring sods of peat to cork or wood blocks, and fastening the plants to it. The peat was always silting out and making a litter about the house, and was quite unsuited to the requirements of the roots.

The upkeep of a proper atmosphere is very important in the case of D. Falconeri. It likes ample heat and exceptionally free supplies of moisture when the weather is bright during the growing season, but when it is dull no good comes from unduly forcing the heat. The moisture is necessary as much for the sake of keeping thrips in check as for hastening the growth, and if these insects are in a house at all they are sure to find out this superb plant. From the time the flowers fade until the little growths are complete, this quickened growing atmosphere must be maintained, when less heat and moisture, combined with sunlight, will ensure a thorough ripening.

In winter a cool, restful temperature with only sufficient root moisture to prevent shrivelling is required, this in its turn being followed in spring by a gradually increasing heat, but only slight atmospheric moisture, until the flowers can be distinctly seen. In appearance the flowers are not unlike those of D. Wardianum, being pure white in ground colour, all the segments tipped with amethyst, and the lip blotched with deep orange and purple.—H.R.R., in *Journal of Horticulture.*

CALENDAR OF OPERATIONS FOR JULY.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE general arrangement and treatment recommended for the month of May should still be continued, hence it will be unnecessary to repeat the details here. There may, of course, be instances where a slight departure from the general rule is advisable; but this is a matter that must be left to the intelligence of the cultivator, who alone is in a position to judge of its desirability. To draw a hard and fast line, and follow it year by year, regardless of all changes—climatic and otherwise—is not what I should consider good practice. Theory is very good in its way, but it must go hand-in-hand with practice in order to secure the best results. Every one is liable to have failures with some of his plants before the road to success is found out; and failures are most efficient instructors. They incite us to

further experiments, and these, coupled with careful observation of results, often lead to complete success.

All repotting which it is intended to perform this season should be accomplished as far as possible during the present month, for if left until late in the season, the days begin to shorten, and there is but little time left for plants so disturbed to get well rooted again before the winter is upon them. Several species here and there will doubtless yet receive attention in this respect, probably a few Lælia purpurata, L. crispa, L. tenebrosa, Cattleyas Mossiæ, Mendelii, and Skinneri, Lælia Dayana, and L. pumila. The last two are now breaking away very freely, and if repotted soon recover at this period, because, when they do make a start, growth is very rapid, new roots being formed in abundance. There are also a few of the late-blooming Odontoglossums in the Cool house, which can be dealt with now.

On looking round, a few plants may now be found which have already completed their new growths, and these, of course, should have the lightest, driest, and most airy positions secured for them, but the supplies of water at the roots should not at present be greatly diminished, because the roots are still actively running, and drought at the present juncture would probably cause secondary growths, which are best if absent. Among these will be some of the earliest Cattleyas, such as C. Warscewiczii, Gaskelliana, and C. Warneri, which bloom immediately the new pseudo-bulb is completed, either with or without a sheath, and those failing to do so quickly will most probably fail to do so this year, no matter what treatment is given. Some of the earliest of the Dendrobiums and Thunias may also be finishing up, and these it will be better to shift into cooler quarters for a few months as they finish off, but, as before said, without reducing the water.

In the East Indian house will be found some plants that have done flowering, as Cypripedium Stonei, C. Rothschildianum, C. Lawrenceanum, C. Curtisii, C. Sanderianum, C. × Swanianum, &c. These commence to grow very soon after the flowering period is over, so that if any require more pot room or fresh compost the matter should be attended to without delay.

The dwarf-growing Cypripedium niveum, C. concolor, C. bellatulum, and C. Godefroyæ are amongst the general favourites, especially with hybridists, from which they have succeeded in raising several beautiful hybrids. Many growers find this section more difficult to manage than the majority of Cypripediums. All of them luxuriate in a warm, moist atmosphere, choosing the lightest position in the East Indian house, where they do not get too heavily shaded. The pans or pots used should be well drained, placing over the crocks a thin layer of moss, to secure the drainage. It is not necessary to elevate the plants above the rim of the pot, as if kept

about level with same they will do equally well. Allow plenty of root room, and fill up firmly with the following compost : good fibrous turfy loam, intermixed with lumps of limestone, about the size of walnuts, and a small quantity of sphagnum moss. Where limestone is not procurable, thick pieces of broken brick may be substituted, though it should be remembered that these plants are found growing naturally on limestone rocks, and very probably this contains something essential to their welfare. All the above species require a plentiful supply of water at all times, and more especially during the growing season. Instead of watering in the usual way with a can, it is better to stand them in a pail of water just covering the rim of the pot, and allowing them to remain for several minutes to ensure a good soaking. Thrips are very fond of the young foliage, and a sharp look out for them is necessary. When sponging the leaves, care must be taken not to raise them more than is really necessary, or they will certainly crack, which greatly disfigures the plants, besides weakening them.

Sobralias may be repotted as soon as the flowering season is past. Good turfy loam, mixed with broken crocks and coarse sand, suits them admirably. They should be potted firmly. Once strongly established they are of most easy growth, and give but little trouble. They make a large quantity of thick, fleshy roots, and must therefore have pots or pans of a reasonable size to contain them. When repotting it is not advisable to disturb the whole ball of roots more than is really necessary, for if pulled about much a great check is given. Most Sobralias delight in Intermediate or Cattleya house temperature, and in a good supply of water when growing strongly, and a moderate supply during winter, as they have no special resting season. Odontoglossum Schlieperianum and the rare O. Williamsii are now flowering, and will afterwards commence to grow, when they also should be repotted. They are very pretty Orchids when strong, but from small, weekly pseudo-bulbs the spikes are spindly, and the flowers insignificant, and therefore should not be allowed to flower until the plants are strong. They grow extremely well in the Belgian leaf soil, and the Intermediate house is the best place for them.

Dendrobium infundibulum and its variety Jamesianum are not often met with in flourishing condition. They are often given too much heat; the Odontoglossum house is the right place for them during the hot summer weather. About the end of September, when the nights become cold, they should be placed at the cool end of the Intermediate house to complete and ripen their growth, and at all times they must be kept moist at the root, especially during the growing season.

In the Mexican house it is necessary to protect the plants from direct sunshine: the blinds are therefore let down earlier in the morning and removed early again in the afternoon. Plenty of ventilation is needed, and

damping down is performed not less than three times a day. About four o'clock in the afternoon the top ventilators are closed, and the bottom ones partially so, the plants at the same time being well syringed overhead, The Lælia aneeps and other short bulbed Mexican Lælias are growing apace, and must now receive plenty of water as, being exposed more to the sunlight, and having so much air, they soon become dry.

THE GENUS ACORIDIUM.

FOR a long period it was doubtful what the genus Acoridium could represent. It was described by Nees and Meyen in 1843 (*Nov. Act. Nat. Cur.*, xix, Suppl. i, p. 131), from fruiting specimens gathered by Meyen at Manila. The single species was called Acoridium tenellum, and it was supposed to belong to the small order Philydraceæ. In 1843 Endlicher placed it as a doubtful genus at the end of Burmanniaceæ (*Mant. Gen. Pl.*, Suppl. iii., p. 59), and in 1879 Böckler transferred it to Cyperaceæ, as a genus between Scirpus and Eleocharis. In 1883 Bentham enumerated it at the end of Cyperaceæ as a quite doubtful plant (*Gen. Pl.*, iii., p. 1043). Some years ago Mr. C. B. Clarke was studying the Cyperaceæ of the Berlin Herbarium, and among them found the type specimen of the doubtful plant, which he saw did not belong to Cyperaceæ, and when he showed it to me I instantly recognised it as a plant which Naves had referred to Ceratostylis gracilis, Blume (*Blanco Fl. Filip.*, ed. 3, Nov. App. p. 245). It had been collected on Mt. Maquiling, at 3,000 feet altitude by Senor Vidal. That it was an Orchid was certain, but being without flowers there was a little doubt as to the genus. More recently Loher again collected it in the province of Benguet, in fruit, at Naguliang, at about 4,500 feet elevation, and also at Mariveles. The two latter being in flower enabled its position to be determined, and it proved identical with Platyclinis. On searching to find if it had received any other name, I found a description by Reichenbach of Dendrochilum junceum (*Otia Bot. Hamb.*, p. 54) which evidently represents the same species. This was collected at Banos, by Wilkes, and at Mahahai, by Wallis. It, however, is not a Dendrochilum, but belongs to Platyclinis, which now proves to be ante-dated by Acoridium by nearly forty years. It is unfortunate that its identity was not discovered earlier, for it now disturbs the nomenclature of some thirty odd species. The following are already known :—

A. ABBREVIATUM (Dendrochilum abbreviatum, Blume). Java.
A. AURITUM (Dendrochilum auritum, Blume). Java.
A. ARACHNITES (Dendrochilum arachnites, Rchb. f.). Philippines.
A. BARBIFRONS (Platyclinis barbifrons, Kränzl). Sumatra.
A. BISTORTUM (Platyclinis bistorta, Wendl. et Kränzl.). Malaya.

A. BRACHYOTUM (Dendrochilum brachyotum, Rchb. f.). Java.

A. BRACTEOSUM (Liparis bracteosa, Lindl., Dendrochilum bracteosum, Rchb. f.). Malaya.

A. BREVILABRATUM (Platyclinis brevilabrata, Rendle). Sumatra.

A. COBBIANUM (Dendrochilum Cobbianum, Rchb. f.). Philippines.

A. CONVALLARIÆFORME (Dendrochilum convallariæforme, Schauer). Philippines.

A. CORNUTUM (Dendrochilum cornutum, Blume). Java.

A. CORRUGATUM (Platyclinis corrugata, Ridl.). Borneo.

A. CUCUMERINUM (Dendrochilum cucumerinum, Rchb. f.). Probably Philippines.

A. EDENTULUM (Dendrochilum edentulum, Blume). Java.

A. EROSUM (Dendrochilum erosum, Rchb. f.). Java.

A. FILIFORME (Dendrochilum filiforme, Lindl.). Philippines.

A. GLOBIGERUM (Platyclinis globigera, Ridl.). Borneo.

A. GRACILE (Platyclinis gracilis, Hook. f.). Perak.

A. GLUMACEUM (Dendrochilum glumaceum, Lindl.). Philippines.

A. GRANDIFLORUM (Platyclinis grandiflora, Ridl.). Borneo.

A. KINGII (Platyclinis Kingii, Hook. f.). Perak and Borneo.

A. LATIFOLIUM (Dendrochilum latifolium, Lindl.). Philippines.

A. LINEARE (Platyclinis linearis, Ridl.). Malay Peninsula.

A. LINEARIFOLIUM (Dendrochilum linearifolium, Hook. f.). Malay Peninsula.

A. LONGIFOLIUM (Dendrochilum longifolium, Rchb. f.). Malaya.

A. MAGNUM (Dendrochilum magnum, Rchb. f.). Philippines.

A. PUMILUM (Dendrochilum pumilum, Rchb. f.). Philippines.

A. RUFUM (Platyclinis rufa, Rolfe). Habitat not known.

A. SARAWAKENSE (Platyclinis sarawakensis, Ridl.). Borneo.

A. SIMILE (Dendrochilum simile, Blume). Malaya.

A. STACHYODES (Platyclinis stachyodes, Ridl.). Borneo.

A. TENELLUM, Nees et Meyen (Dendrochilum junceum, Rchb. f., Ceratochilus gracilis, Naves). Philippines.

A. UNCATUM (Dendrochilum uncatum, Rchb. f.). Philippines.

Dendrochilum fuscum, Teijsm et Binn., appears to be identical with Pholidota carnea, Lindl.

At least ten of the species are known in cultivation, though a few of them are rare. All are very graceful, and A. filiforme is often known as the Golden Chain Orchid. A. Cobbianum is also most effective when well grown. A. glumaceum is one of the best known, and a figure of the variety validum was given at page 73.

R. A. ROLFE.

ORCHI-GYMNADENIA × LEGRANDIANA.

A VERY interesting Orchid has been gathered near Dorking, by F. A. Marshead, Esq., of Guildford, who found it growing with Orchis maculata, and on comparison I believe it to be a natural hybrid between the species named and Gymnadenia conopsea, which is known under the above name. A note respecting it appeared in these pages in 1899 (vol. vii., p. 274), and it may be advisable to complete its history. Such a hybrid was discovered in Austria as long ago as 1875, and was described by Reichardt under the name of Orchis × Heinzeliana, its relation to both parents being shown (*Verh. Zool.-Bot. Gesell. Wien*, xxvi., p. 464). In 1890 such a plant was discovered in France by M. G. Camus, and described as Gymnadenia × Legrandiana (*Bull. Soc. Bot. Fr.*, xxxvii., p. 217), which the author afterwards changed to Orchi-gymnadenia × Legrandiana, because the parents belong to different genera (*Journ. de Bot.*, 1892, p. 478). None of these plants have been figured, nor have I seen specimens, but the one now sent is as thoroughly intermediate. The lip is far broader than in Gymnadenia, and has angular side lobes, as in Orchis maculata, with the front lobe, however, equally well developed. The spur is slender and curved, and about twice as long as the lip, while in shape, texture, and size the flower is intermediate between the two. Orchis maculata has a straight spur, about as long as the lip, while in Gymnadenia conopsea the spur is curved, slender, and about four times as long as the lip. The hybrid might presumably occur wherever the two parents grow intermixed. R. A. ROLFE.

DISA VENOSA.

DISA venosa, Swartz, is a rare Cape species, which, so far as I know, has not yet appeared in cultivation. Some time ago Mr. J. O'Brien obtained some bulbs from the Cape Peninsula, but the first which has flowered, in the collection of the Hon. Walter Rothschild, at Tring Park, proves to be a light form of D. racemosa, a closely allied species, which, however, as Mr. Bolus remarks, may always be distinguished by its narrower, more angular, cuneate dorsal sepal, and its less rounded lateral sepals. It is also a smaller plant, having leaves from ¾ to 1½ inches long, and the scapes bear from one to three flowers. D. racemosa is about twice as luxuriant, and has a broadly ovate-orbicular dorsal sepal. Schlechter has recently reduced D. venosa as a variety of D. racemosa, but the two seem quite constant in their differences, which Mr. Bolus confirms by their study in the field. Both are natives of the Cape Peninsula, Mr. Bolus giving the habitat of D. venosa as moist grassy places in the lower plateau of Table Mountain, at 2,400 feet elevation, while D. racemosa grows there at about the same altitude and down to 800 feet below sea level. R. A. ROLFE.

NOTES.

THE next meeting of the Royal Horticultural Society will be held at Holland House, Kensington, by kind permission of the Earl of Ilchester, on Tuesday and Wednesday, July 12th and 13th. The Orchid Committee will meet at 11 a.m. on the first day, and the Show will be open to Members at 12.30 p.m.

The following meeting will be held at the Society's New Hall, Vincent Square, on Friday, July 22nd, on which date the Hall will be formally opened by their Majesties the King and Queen.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on July 15th and 29th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

A very handsome flower is sent from the collection of R. G. Thwaites, Esq., of Streatham (gr. Mr. Black), called Odontoglossum Pescatorei Grand Duchess. The segments are very broad, and the flower measures barely under 3½ inches in diameter across the petals. These are pure white, but the sepals are tinged with purple, in the dorsal chiefly in a band along the median line. The lip is finely shaped, and the basal markings very rich red-purple, with a few similar spots in front of the crest. The inflorescence bore eleven flowers, and this is the third time the plant has bloomed, and the flowers are said to have had the same character on each occasion. It is a very striking form.

Five good flowers of Odontoglossum crispum are sent from the collection of J. Wharin, Esq., of Masbro, Rotherham. Four may be described as fairly typical, and the other is O. c. roseum. One of the others, however, has unspotted petals with a few blotches on the sepals and lip. They are from a small amateur's collection, and all are finely developed, showing that their culture has been thoroughly grasped.

Is it a fact that Cattleya Mossiæ and C. Mendelii cannot be intercrossed? We have been told so by an expert hybridist, and it would be rather interesting to have particulars of the attempts that have been made.

A plant of the pretty little Cleistoma secundum (Rolfe) has just flowered in the collection of Mrs. Brandt, of Zurich. It is believed to be a native of Burma, and was introduced by Messrs. Hugh Low & Co., who flowered it in 1890. It has narrow oblong leaves, some 3½ to 5 inches long, and shorter, more or less drooping racemes, on which the flowers are arranged in a more or less erect manner. Thus the racemes are one-sided.

The pedicels are 6 or 7lines long, and the flowers are blush-pink, with a rather darker fleshy lip, the spur, side lobes, and crest being white.

Odontoglossum crispum Donovan is a large and handsomely blotched form from the collection of J. Leemann, Esq., Heaton Mersey. The flowers measure three inches across, and have rather elongated segments, prettily tinged with rase and heavily blotched with brown.

A form of Lælio-cattleya × Bertha is also sent from the same collection, derived from Cattleya Schroederæ and Lælia grandis. It was overlooked at the time that the hybrid described at p. 158, under the name of L.-c. × Rocksand, was a form of the same, and the present one has more bronzy sepals and petals.

Two beautiful Odontoglossums are sent from the collection of Darcy E. Taylor, Esq., of Chippenham. One seems to be a form of O. × Adrianæ with a white ground colour and prettily spotted; the other is suggested as a possible second hybrid between O. × Andersonianum and O. crispum, as it most resembles the former, but has much broader segments. In colouring it most resembles the variety Ruckerianum.

SALE OF ORCHIDS FROM OAKWOOD.

A SALE of duplicate Orchids from the collection of N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne, took place at Messrs. Protheroe & Morris' Rooms, Cheapside, at 3 p.m. on May 31st, and was largely attended. Eighty-one lots were offered, all but three of which were sold, the aggregate sum realised being over £5,000. The majority were Odontoglossums, and included some of the choicest varieties. O. crispum Cooksonæ reached the record price of 640 guineas. O. c. Franz Masereel fetched 570 gs., A. Warburton, Esq., being the purchaser. O. c. Mundyanum went to Baron Schröder at 435 guineas. Messrs. Sander & Son secured a plant of O. c. Grairianum at 370 gs. O. c. Ashworthianum fetched 280 gs., and O. c. Luciani 250 gs., both going to H. T. Pitt, Esq. O. c. Cooksonianum sold well, one plant fetching 220 gs., while others went at 170, 90, 75, and two at 85 gs. each. O. c. Grace Ruby was knocked down at 210 gs. to Messrs. MacBean. O. c. Regina and O. c. Mariæ went for 180 gs. each, the former to J. Leemann, Esq., the latter to M. Jules Hye, the former also securing two plants of O. c. Rossendale at 120 gs. each. O. c. Raymond Crawshay fetched 52 gs., O. c. tessellatum 50 gs., and O. c. Massangeanum 40 gs., all going to Mr. W. Bolton. Others fetched good prices, and some rare Cypripedes also sold well, F. Wellesley, Esq., and Mr. W. Bolton being among the purchasers.

ORCHID PORTRAITS.

BULBOPHYLLUM WEDDELII, Rchb. f.—*Bot. Mag.*, t. 7958.

CALANTHE DISCOLOR.—*Gard. Chron.*, 1904, i., p. 389, fig. 171.

CYPRIPEDIUM SPECTABILE (growing wild in Canada).—*Garden*, 1904, i., p. 447, with fig.

CYPRIPEDIUM VILLOSUM.—*Garden*, 1904, i., p. 435, with fig.

DENDROBIUM NOBILE (with 1350 flowers).—*Journ. Hort.*, 1904, i., p. 511, with fig. VAR. VIRGINALE.—*Gard. Chron.*, 1904, i., p. 357, fig, 156.

EPIDENDRUM STAMFORDIANUM.—*Garden*, 1904, i., p. 391, with fig.

HÆMARIA DAWSONIANA.—*Gard. Chron.*, 1904, i., p. 387, fig. 170.

LÆLIA PURPURATA QUEEN ALEXANDRA.—*Gard. Chron.*, 1904, i., p. 363, fig. 160.

LÆLIO-CATTLEYA × HIGHBURIENSIS.—*Wien. Ill. Gart.-Zeit.*, 1904, p. 201, fig. 45, with plate.

LÆLIO-CATTLEYA × LUMINOSA THE MIKADO.—*Gard. Mag.*, 1904, pp. 405, 408, with fig.

MASDEVALLIA × POURBAIXII.—*Gard. Mag.*, 1904, p. 373, with fig.

ODONTIODA × VUYLSTEKEÆ.—*Gard. Chron.*, 1904, i., p. 360, fig. 159; *Gard. Mag.*, 1904, p. 376, with fig.; *Garden*, 1904, i., p. 433, wfth fig.; *Journ. Hort.*, 1904, i., p. 487, with fig.

ODONTOGLOSSUM CRISPUM HAROLD.—*Journ. Hort.*, 1904, i., p. 553, with fig.

ODONTOGLOSSUM NEBULOSUM GURNEY WILSON.—*Gard. Chron.*, 1904, i., p. 356, fig. 155.

RESTREPIA ANTENNIFERA, R. GUTTATA, R. LANSBERGII, R. LEOPARDINA, and R. STRIATA.—*Gard. Mag.*, 1904, p. 369, with fig.

SOBRALIA RUCKERI.—*Journ. Hort.*, 1904, i., p. 531, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

W. C.W. All four flowers are forms of Odontoglossum Hunnewellianum, n. 2 being the best. The resemblance to O. × Adrianæ arises from the fact that O. Hunnewellianum is one of the parents of that. The ground colour varies from pale to bright yellow, and the amount of spotting varies greatly, but the details of the lip and column wings are fairly constant. The flowers of Oncidium Marshallianum seem to be practically alike, as would be expected when all are on the same inflorescence, but will probably come better when the plant is stronger.

J. F. S. Flowers received badly decayed and mouldy, but appear to be as follows:—Catasetum macrocarpum, Cattleya Forbesii, Vanda Denisonæ, V. suavis, and a small form of Oncidium sphacelatum. From sucn a distance they would have come better pressed flat between blotting paper.

T. W. Lycaste cochleata and Cyripedium Mastersianum.

E. P. C. 1, Oncidium litums; 2, O. caloglossum; 3, O. Gardneri.

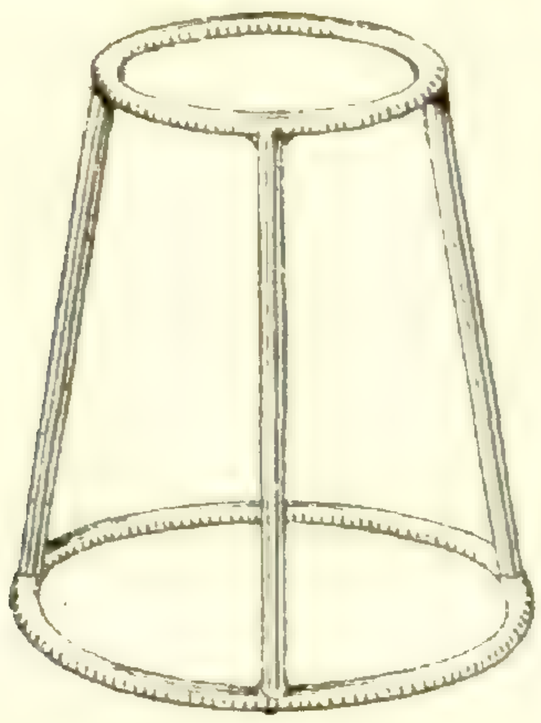
H. E. We will try to clear the point up.

W. H. R. Unavoidably postponed.

Photographs received, with thanks, R.G.T., G.I'A., O.O.W.

Several notes are unavoidably held over till next month.

MURRAY'S PATENT ORCHID STAND.



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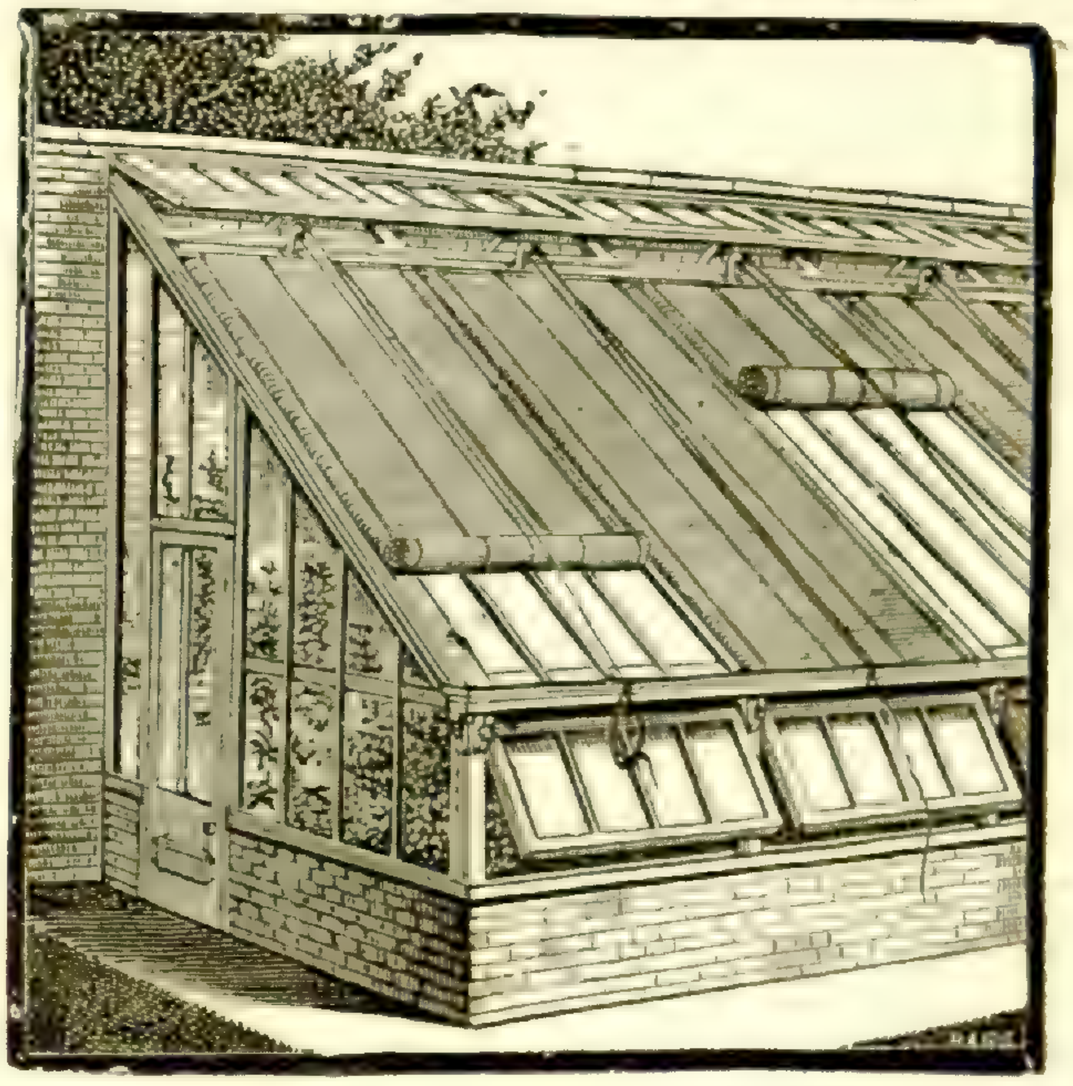

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NOTICE TO READERS OF

THE ORCHID REVIEW

A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

Full details appeared in our March issue.

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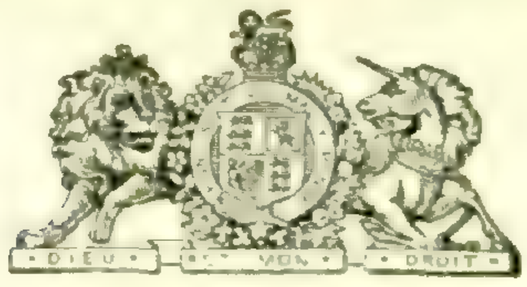

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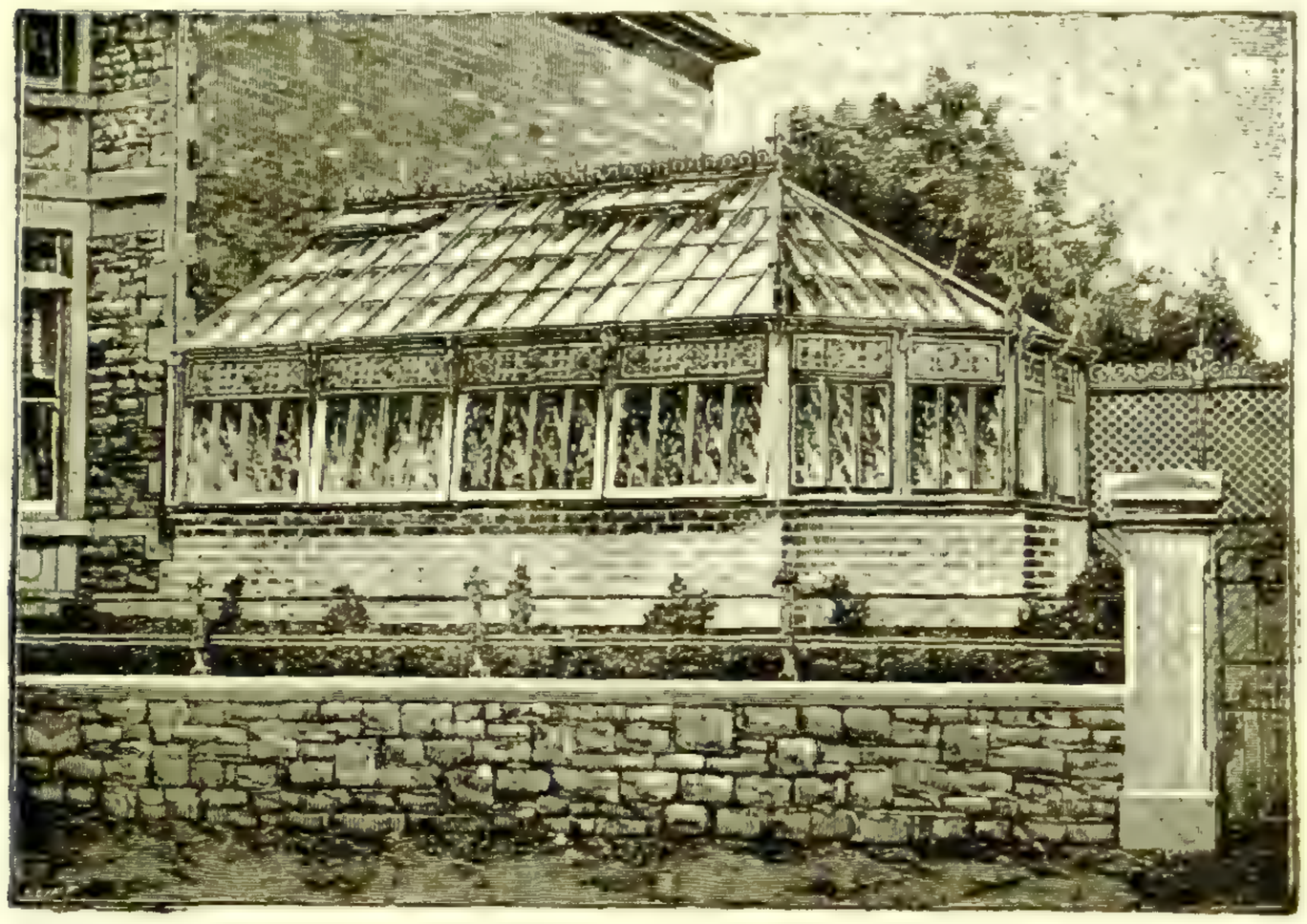

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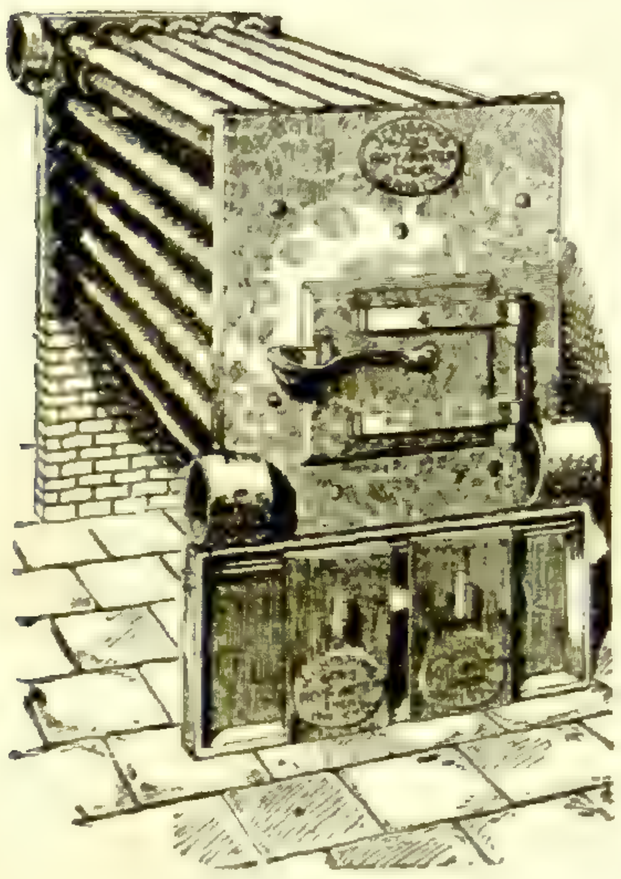

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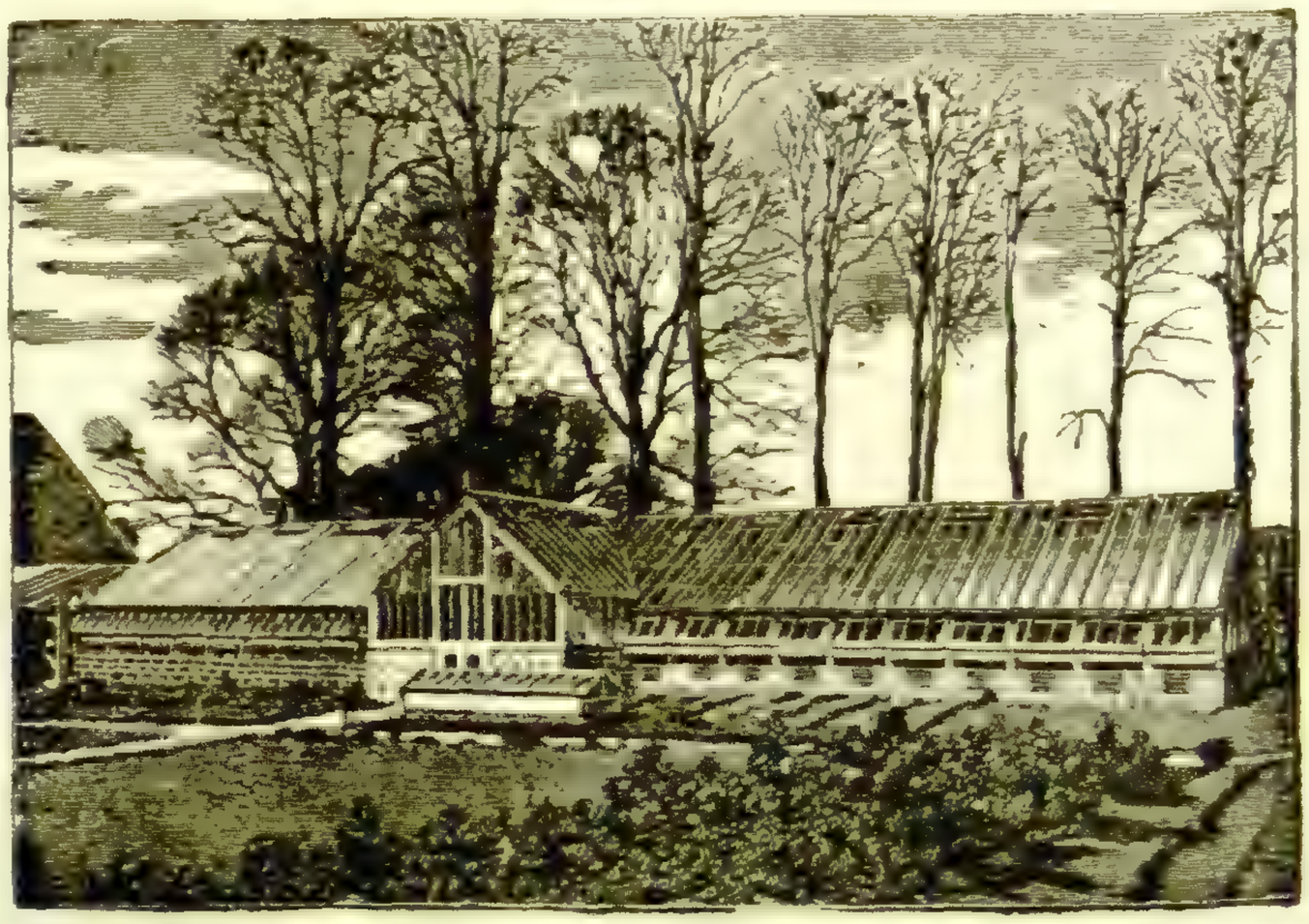

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XII.] *AUGUST*, 1904. [No. 140.

DIES ORCHIDIANI.

THE Royal Horticultural Society has just celebrated its centenary by opening its new Horticultural Hall, in Vincent Square, Westminster, and I need make no apology for calling it a very important event in the Orchid world. It will henceforth be the home of the Orchid Committee, and the centre to which Orchidists will make their fortnightly pilgrimages. The influence which the Royal Horticultural Society has exercised on Orchid culture since its inauguration in March, 1804, is incalculable. Had it not at one time a very fine collection of its own? Did it not send numerous collectors in search of these, among other plants? And was not the great Dr. Lindley for many years one of its leading spirits? And coming down to modern times we find Orchids becoming of such importance that in 1889 a special committee was appointed to deal with them, the importance of whose work there is no need for me to emphasise here.

I need not go into the history of the New Hall. Suffice it to say that it has been built in commemoration of the Society's Centenary, and that it was opened on Friday, July 22nd, by Their Majesties the King and Queen, the occasion being a special one, and not accompanied by a show. Before leaving the Hall the Queen was pleased to accept a bouquet of Orchids from Lady Lawrence, into the composition of which, the *Gardeners' Chronicle* observes, "entered, appropriately enough, Odontoglossum crispum, long known as O. Alexandræ. This favourite Orchid was discovered by Hartweg, one of the Society's collectors, and introduced to cultivation by Weir, another of the Society's collectors."

The first exhibition in the New Hall took place on the following Tuesday, July 26th, and, besides the novelty of the occasion, was interesting to Orchidists for two other reasons. One of these was the appearance of Angræcum infundibulare, from the collection of Lord Rothschild, a remarkable species, which has not previously appeared in

cultivation, and to which a First-class Certificate was given; the other was a lecture on Orchids by Mr. James Bidgood. The show was also exceptionally rich in varieties.

The meeting brought together a large muster of Fellows, and afforded a good opportunity for the inspection of the building, which seemed to give general satisfaction. The Exhibition Hall is a great improvement on the Drill Hall, in which the meetings have been held up to the present, for, including the two annexes, it has nearly double the area, and the arrangements for lighting, heating, and ventilating the building are greatly superior. The Orchid Committee sat in one of the annexes, and the lecture was given in the Lecture Room upstairs. The Library and Offices are also well appointed, and when a little more time has elapsed to enable things to settle down into working order the Society will be much better equipped for its work, and my readers will join in wishing it increased prosperity in its new home.

I alluded to the appearance of the remarkable Odontioda × Vuylstekeæ at page 162, and now I see we have a fine photographic illustration at page 209, in which its relation to its parents is well shown. It is strikingly distinct from both, and while an undoubted horticultural acquisition it is equally interesting on other grounds. It is, perhaps, not very remarkable that the two should cross together, for they are nearly related—in fact, the Cochlioda was once called Odontoglossum—but it is rather curious how much of the Odontoglossum shape has come out in the hybrid. I wonder how long it will be before other seedlings make their appearance in the flowering stage.

The *Gardeners' Chronicle* remarks:—"The colour of the segments is so peculiar that no two people whom we asked were in agreement about it. 'Salmon-cherry,' an odd combination, truly—was as near an approximation as words would convey. The toothed crest of the lip was yellow. A cut spike bearing six flowers, each about 2½ inches across, was all that was exhibited, but the Committee waived their usual rule of requiring a plant to be placed before them by granting the spike a First-class Certificate. A Botanical Certificate would have been much more appropriate, and would really have conferred greater honour; but unfortunately exhibitors do not attach much importance to that award, and it is one that carries little or no financial weight, so this most wonderful hybrid has to take its place amongst the multitudinous ruck of plants honoured by First-class Certificates." This is almost suggestive of the need of a special Certtficate to meet such exceptional cases, for we once had the definition that a Botanical Certificate

was given to indicate that in the Committee's opinion the plant on which it was bestowed was "not worthy of commendation for cultural or decorative purposes"—truly a rather dubious honour.

Seedling Odontoglossums are very much to the front just now, for we have not only the photographs of four striking forms which were exhibited at the recent Temple Show, at page 201, and which will be useful for reference later on, but also a detailed account of the remarkable series of seedlings in the collection of De Barri Crawshay, Esq. It is interesting to have such full particulars of the methods employed, and it should enable others to follow up the work with greater certainty of success. We seem to have arrived at the eve of a great development.

What is a species? The question is again raised by a rather interesting article which has just reached me. From it I learn that a plant has been discovered which exhibits "the long sought property of producing each year a number of new species." And they appear to be numerous, too, for a little later on it is said that the plant "produces each year a large number of new species." This remarkable plant is Œnothera Lamarckiana, and I am a little relieved to find that it is not an Orchid. But if ordinary plants are beginning to behave like this, what may we not expect from Orchids? Indeed, from the general line of argument I have a suspicion that they may already exist, and a little search may yield some interesting discoveries. At all events the following is suggestive:—

"The progress of modern horticulture is largely due to the practical cultivator taking advantage of the natural tendency to variation that exists in all plants. He induces plants to vary from the type, and later endeavours to 'fix' it in the case of a plant propagated by seed, or he perpetuates the variation by the vegetation process of grafting. Thus he makes new varieties. We talk of a 'species.' What do we mean? Only that the plant is like some others. And we place limitations upon it by a certain circumscribed range of variation. These smaller, inconstant variations we accept as normal; an unusual variation or 'sport' always calls our attention. Until recently the general belief has been that new species were formed by successive small variations from the mean, until, so to speak, the balance was overtopped and a new centre was established. And this may be a true hypothesis in some cases. The 'mutation' theory of De Vries accounts for new species by sudden jumps: and, following up this line of thought, De Vries has actually been successful in seeing new species originate from the old ones. But further than that, it is his belief that this jumping tendency is natural manifestation and recurs periodically."

Have we not already observed something of this jumping tendency among Orchids? We must evidently be prepared for anything now. We also learn that an important deduction has been made from the discovery, namely, that "the struggle for existence lies not between the individuals, but between species." I begin to wonder whether we have not several different kinds of "species" about.

ARGUS.

THRIPS.

DURING the past spell of hot, dry weather and east and north-east winds we have been troubled a great deal with thrips, which are most difficult to dislodge when they get a footing among small seedlings—much more difficult than one would believe. The damage which they do to very small seedlings is incalculable. The plants become crippled and cankered when it is so particularly essential to get quick and strong growth, for a strong beginning means so much in the saving of time—that bugbear of the Orchid Hybridist. Wherever thrips appear, it is safest to fumigate at once, and to repeat the fumigation once or twice at intervals of one or two days, so that any eggs which the first fumigation failed to destroy may be caught before they in turn have time to multiply, which they do very rapidly in hot-houses, if neglected. The plants should be fairly dry before fumigating takes place, so that the fumes may follow those thrips which drop on and into the surface of the compost.

As "X L All" is a rather expensive commodity, one cannot help a tendency to use it as sparingly as possible, but as the health and well-being of the plants is the first consideration, it is false economy to spare it as long as a thrip is alive.

J. M. BLACK.

DENDROBIUM REGIUM.

ABOUT two years ago a fine new Indian Dendrobium was described by Dr. Prain, Director of the Royal Botanic Garden, Calcutta, under the name of D. regium, of which particulars have already been given in these pages (vol. x., p. 293). Shortly afterwards a living plant was sent to Kew, which has now produced a two-flowered raceme, showing the species to be both distinct and very handsome. As originally pointed out, it is allied to D. nobile, which it closely resembles in habit; indeed, the most obvious difference as the two grow side by side is in the veining of the leaf sheaths, which in the novelty are more like those of D. crepidatum. The inflorescence also and shape of the flowers indicate the same affinity, but there is

a striking difference in the total absence of a maroon disc. In fact the throat is clear yellow, surrounded by a zone of cream white before passing into the light rosy purple limb. The sepals and petals are of the latter colour throughout, and otherwise resemble a fine D. nobile in shape. The petals are broadly ovate, twenty lines long by thirteen lines broad, and the sepals are similar in length by seven lines broad. The lip is convolute, as long as the petals, and nine lines broad in front, but expands artificially to fourteen lines. The mentum is dorsally compressed, and four lines long. It seems to have the same vigorous constitution as D. nobile, and it is curious how great is the general affinity between the two species, yet the clear yellow throat of the novelty gives it a very distinct appearance. So far as present indications go, D. regium flowers much later in the year, present flowers expanding in the latter half of July, when D. nobile is completely over. The habitat is given as Lower Hindustan.

R.A.R.

ALBINO CATTLEYAS.

THE question whether albinos reproduce themselves true from seed has recently engaged much attention, and some important evidence now comes from M. Peeters, of St. Gilles, Brussels. In an account of this famous Brussels Nursery given in our last volume we mentioned a very promising hybrid between Cattleya Gaskelliana and C. Warneri alba, of which there were many young plants, and some of larger growth, adding: "Theoretically the flowers should be white, but M. Peeters believes they will contain both white and coloured forms, as some of them have purple margins to the leaves" (*O. R.*, xi., p. 131). They have now begun to bloom, one plant being included in Messrs. Sander's group at the Temple Show, under the name of C. × Madame Myra Peeters, and another at Holland House, both being true albinos, having pure white flowers with the usual yellow disc. M. Peeters now writes that seven plants of this cross have flowered, five being pure white and two rose coloured, and he sends the inflorescences of the two latter, each bearing three flowers. The reversion foreshadowed in the leaves is fully confirmed, though the flowers are much lighter than typical forms of the parent species. The sepals and petals are tinged throughout with lilac purple, which colour becomes rather darker on the front of the lip. It is a piece of important evidence, and it will be interesting to hear of the behaviour of the remainder of the batch when they flower, and to know the amount of variation and proportion of those that come true. There are other batches of seedlings in existence obtained by intercrossing albino Cattleyas, so that further evidence will in time be forthcoming.

ANGRÆCUM ROTHSCHILDIANUM.

IT is interesting to note that a plant of Angræcum Rothschildianum has now flowered in the Royal Botanic Garden, Glasnevin. The species appeared about a year ago, in the collection of the Hon. Walter Rothschild, and received a Botanical Certificate from the R.H.S. on August 4th. It was shortly afterwards described as new (O'Brien in *Gard. Chron.*, 1903, ii. p. 131, fig. 51). At first I had a little doubt about its being new, for before it was exhibited Mr. O'Brien showed me a rude sketch, just taken as a memorandum, and I immediately recognised a near ally of A. Galeandræ, Rchb. f., if not actually a form of it. The leaves, however, were much broader, and the locality different. Materials never came to enable the point to be cleared up, and it is the more satisfactory to find that other plants of the species are in existence. The inflorescence sent to Kew by Mr. Moore has five flowers, having a stouter rachis and much shorter bracts than in A. Galeandræ, but the size and shape of the flowers are surprisingly similar to those of this hitherto rather isolated species. The sepals and petals are oblong, obtuse, an inch long, and white, suffused with light green up the centre. The lip is broadly funnel-shaped in front, rather abruptly constricted below its junction with the pedicel, and then suddenly inflated into an oblique, somewhat compressed sac, about five lines long. The limb of the lip is very broad, reaching $1\frac{1}{4}$ inches when artificially expanded, and about the same in length. The base of the lip is dull brown rather than blackish purple, and in front of this is a large bright green area, becoming somewhat paler where it passes into the broad white margin. The column is half an inch long, rather broad, and the pollinia typical Angræcum. The whole flower is remarkable, and the resemblance to the genus of Galeandra is striking. The habitat is given as Uganda, in the direction of the Victoria Nyanza. The allied A. Galeandræ, Rchb. f., is a native of Angola and the Gaboon district, and has not yet appeared in cultivation. It has narrowly oblong leaves, which are distinctly bilobed at the apex.

R. A. ROLFE.

NOVELTIES.

CYMBIDIUM INSIGNE, Rolfe.—A handsome species of Cymbidium, allied to C. Lowianum and C. longifolium, but differing from both in having a very broad, nearly orbicular lip, and the disc not strongly bilamellate. It is a native of Annam, where it was found growing along ravines and in sandy soil at 4,000 to 5,000 feet elevation. The general habit recalls the species named, the leaves being about $2\frac{1}{2}$ to 3 feet long, and rather narrow, and the scape measuring some 3 to $4\frac{1}{2}$ feet long, and bearing numerous flowers

about $3\frac{1}{2}$ inches in diameter. According to a coloured drawing, communicated to Kew with a native dried specimen in 1901, by Mr. G. Schneider, the flowers are rosy lilac in colour, with many crimson blotches on the centre of the disc. The flowering of this fine species in cultivation will be awaited with interest.—*Gard. Chron.*, 1904, i., p. 387.

CATASETUM MONODON, Kränzl.—A Brazilian species, said to be allied to C. triodon, Rchb. f., which flowered in the Royal Gardens, Munich. It was collected by M. Zimmerer. The spike bears eight or ten greenish flowers, each nearly two inches in diameter; and the lip is flat, with long fringes along the whole border, except the sinus of the mid lobe: while on the disc, near the apex, is a compressed calius or horn, ending in a long thread-like bristle.—*Gard. Chron.*, 1904, i., p. 354.

HABITS OF DIPODIUM.

THE handsome Dipodium pictum was recently figured in the *Botanical Magazine* (t. 7951), when Mr. Hemsley remarked that from the incomplete notes of collectors it appeared that this species and D. paludosum start in the ground and grow up trees. Mr. Ridley, Director of the Singapore Botanic Garden, now gives some interesting information about their habits, showing that they are quite diverse in this respect (*Gard. Chron.*, 1904, ii., p. 19).

"D. pictum, it appears, is a common plant in the Malay Peninsula, and has a scandent habit. It inhabits woods, which may be called open woods for this part of the world, where the woods are usually very dense, and is generally to be found in the wetter parts of them. It is found sometimes straggling on the ground, and eventually climbing up quite small trees, which it encircles with its roots. It does attain the height of 5 or 6 feet occasionally, but more often is 2 or 3 feet high. It is certainly not very floriferous in its wild state. I have only once or twice seen it in flower wild, but it blooms easily and often in cultivation, either on stocks, in pots, or on trees in the garden. It is not often panicled, as it is figured, being simply racemose as a rule.

"D. paludosum, Rchb. f., on the other hand, does not climb at all, so far as I am aware. It inhabits open, hot swamps, and is, I believe, always terrestrial. I have never met with it myself, for though Griffith was the first to find it, at Ayer Panas, in Malacca, I have sought for it in vain. I think the locality there must have been turned into a rice-field, and so it has been destroyed. It appears to be very rare in the Peninsula now, though abundant in Labuan, and elsewhere further east." It may be added that this species is figured at t. 422 of the *Orchid Album*.

R. A. ROLFE.

ONCIDIUM WARNERI.

A PLANT of this extremely rare but very pretty little species has just bloomed at Kew, producing a raceme of eight flowers. The species originally appeared in the collection of C. B. Warner, Esq., of Hoddesden, and was exhibited at a meeting of the Horticultural Society in May, 1845, when it was described by Lindley under the name of Odontoglossum Warneri (*Bot. Reg.*, xxxi., Misc., p. 54), and afterwards a darker variety was figured as var. purpuratum (*l.c.*, xxxiii., t. 20). This had been introduced from Mexico by Messrs. Loddiges. It was afterwards transferred to Oncidium by the same author (*Fol. Orch.*, Oncid., p. 36), as Oncidium Warneri, being placed in the small section Paucituberculata, next to O. cheirophorum, to which, however, it is not very nearly allied. Lindley described it as "a plant with conical cæspitose pseudo-bulbs, and recurved grassy leaves longer than the short raceme. Lip bright yellow, equally four-lobed. Sepals and petals purple, equal, recurved at the points." It is only certainly known as a native of Mexico, though Reichenbach once remarked: "To my great surprise, I have just obtained from Mr. Bull a wild-grown inflorescence with undoubted New Granadan Orchids from the United States of Columbia" (*Gard. Chron.*, 1879, ii., p. 390). The statement, however, may have originated in error, for Mr. Day, who obtained one of Mr. Bull's plants in 1875, records the place of origin as "New Granada or thereabouts," afterwards adding "may be from Mexico, Roezl" (*Day Coll. Draw.*, xix., t. 73). It may be added that Mr. Day's painting, as usual, is excellent, and his remark, "I think it a very pretty little thing," expresses the opinion of a well-known connoisseur.

R.A.R.

SNAILS ON ORCHIDS.

THERE is a small shell snail which is sometimes troublesome in Orchid houses in this country, and which we believe is known as the Garlic Snail, Helix alliaria, from the strong garlic-like smell it emits. Some such pest appears to be troubling "A. K. A.," of New York, who asks the Editor of *American Gardening* for a remedy. He describes it as a small black shell snail, about the size of a quarter of a pea, which lodges in the peat and moss in baskets where Orchids are planted, and eats off the young roots as soon as they appear. Messrs. Lager & Hurrell reply that this little snail does not to their knowledge eat the roots of Orchids, and the only time of the year when it can do any damage is in the fall, eating the flowers. When too troublesome they place pieces of fresh lettuce leaves on the pots in the evening, gathering them up in the morning when the snails invariably will be found on these leaves, and when they may be easily destroyed.

ODONTOGLOSSUM APTERUM VAR. GURNEY WILSON.

At the R.H.S. meeting held on May 3rd last an Award of Merit was given to a handsome Odontoglossum from the collection of Gurney Wilson, Esq., Glenthorne, Hayward's Heath, under the name of O. nebulosum Gurney Wilson, and the variety was shortly afterwards figured (*Gard. Chron.*, 1904, i., p. 356, fig. 185). Mr. Wilson now writes: "I am sending you a block of Od. nebulosum Gurney Wilson, which appeared in the *Gardeners' Chronicle*, for insertion in the *Orchid Review*, if you think it good enough and of sufficient interest to your readers." We are pleased to reproduce the figure

Fig. 37. Odontoglossum apterum Gurney Wilson.

of this handsome variety, which, as the initials show, was prepared from a drawing by Miss Roberts. We have not seen a living flower, and would therefore remark that the segments are described as "silvery white, slightly tinged with rose at the backs, and attractively spotted with purple, in which a slight green tint can be observed." It differs greatly from the typical form, in having the spots extending practically to the apex of the petals and lip, and in this respect is best comparable with the variety pardinum, which seems to have originated in Mr. Salt's collection. It was figured by Mr. Day in April, 1868 (*Coll. Draw.*, xi., t. 74), with the remark:

"This superb variety was sent to me by Mr. Salt under the above name." In that the spots extend about three-fourths of the way to the apex. The species varies greatly in the amount and colour of the spotting. Six forms are figured by Mr. Day in the volume mentioned, in two of which the spots are green, in one very small and numerous, in the other fewer and of the ordinary size, while in the variety candidulum there are only a few yellow spots on the base of the lip. According to Mr. Day, with whom it flowered (*l.c.*, t. 73), it was imported from Mexico by Messrs. Hugh Low & Co. in 1866, through their collector, Mr. Tucker. A word as to the specific name seems necessary, for we note the vague remark that O. nebulosum has been referred by some to O. apterum, which again has been identified with O. Rossii (*Gard. Chron. l.c.*). The fact is that O. apterum was for a long time completely lost sight of, and afterwards referred to O. Rossii, but the description leaves no doubt that the plant intended is what Lindley afterwards called O. nebulosum, as has already been pointed out (*O.R.*, iii., p. 134). The statement that the bulbs are two or three-leaved absolutely excludes O. Rossii.

ORCHIDS AT ROSEFIELD, SEVENOAKS.

WHEN giving an account of Mr. Crawshay's very interesting collection last month (pp. 203-208) we briefly alluded to a fine series of dried flowers and paintings, and now we are able to give a few details respecting them. Of dried flowers Mr. Crawshay has a series of over 2,000, mostly Odontoglossums, from his own and other collections, which are arranged on shelves in a cabinet, reminding one of a collection of butterflies. They are invaluable for reference, being little inferior to the living flowers in this respect, though the colours cannot be retained in all their original brilliancy. They have been dried in sand, so as to preserve the original shape and details of the crest as much as possible, and where space is not an object this is an advantage as compared with the usual method of pressing them flat.

The method is very simple. Take a box of suitable dimensions and some clean dry sand. Place a layer of sand on the bottom, then lay the flowers in, after removing the pedicels, and fill up with sand, which should be run in gently, so as to fill up the interstices between the segments without distorting their shape; then place the box in a moderately warm place near the fire, so as to get the water away quickly. When dry they are arranged on the shelves, being held in place by a pin, and suitably labelled. It is hardly necessary to point out the utility of such a collection. Many amateurs try to preserve impressions of their choice varieties, either by having paintings, sketches, or photographs made, but Mr. Crawshay preserves the flower itself, and the accuracy of the record cannot be called in question, which is more than can be said of some of the other methods.

Even where paintings are kept such dried flowers supplement the record in a very useful way.

It was very instructive to look through the series of dried flowers of such variable things as Odontoglossum crispum and its numerous hybrids, and note the wide range of variation, some of which would be almost incredible were their history not pretty well known. In a few cases a flower has been dried from some particular plant for several successive years, and thus one can see the improvement under good culture, and the variation in the spotting from year to year, which is sometimes considerable, and frequently causes surprise. Another use to which the method will probably be put, now that seedling Odontoglossums are beginning to bloom, is to illustrate the amount of variation between seedlings out of the same capsule. Some very curious evidence is beginning to accumulate under this heading, and it should teach us a great deal of what is going on in Nature, and throw light on the origin of the blotched forms of O. crispum now so highly prized.

But we must pass on to the paintings, of which Mr. Crawshay has a fine series. They are mostly representations of single flowers, life size, and very accurately coloured. We compared sixteen forms of O. × Andersonianum, every one different ; in fact exhibiting a remarkable range of variation. O. crispum and O. × Wilckeanum, were also represented by a fine series, together with O. triumphans, O. × Coradinei, O. × Adrianæ, &c.

We noted, also, the richly-coloured O. × Wendlandianum Crawshayanum ; three forms of the rare O. nevadense, all different ; O. × Leeanum ; O. × loochristiense Theodora, a very round white flower, bearing a large brown blotch on the sepals and lip, but only a trace of spotting on the petals ; and O. × Crawshayanum (Hallii ♀ × Harryanum ♂), of which the two seedlings differ considerably in the amount and colour of the spotting.

There were fourteen paintings of O. × Hallio-crispum, all from different plants obtained from the same seed-pod. The seed parent was a poor form of O. Hallii (a better not being available at the time), and the pollen parent O. crispum roseum. Most of the seedlings have a yellow ground, ranging from bright to pale yellow and cream colour, while one is suffused with rose. All are well marked with rich red-brown, and one has a very broad lip. One of the cream-coloured forms, Mr. Crawshay states, has been mistaken for a × Wilckeanum form.

O. × Wattianum formed a small but very interesting series. There was the original form, having a nearly white ground to the lip, and the blotch claret purple ; O. × W. Hardyanum, with broader segments, a yellow ground colour, and the markings dark blackish brown, and the single artificially raised O. × W. Crawshayanum. This has now flowered three times, and a flower has been painted on each occasion, the variation being

remarkable. The ground colour is yellow and the markings brown, and at the first flowering the two colours were pretty equally distributed. The second year the blotches were smaller, hence there was an increased amount of yellow. On the third occasion the flowers were appreciably finer, the plant having become strong, and the amount of brown on the sepals and petals was considerably augmented, giving the flower an altogether darker appearance, but, curiously enough, the blotch on the lip was smaller and darker.

It was interesting to see a dried flower of the original O. × Denisonæ, a plant which bloomed with Lord Londesborough in 1872, and was figured in the *Floral Magazine* (t. 26). It was feared that the plant was lost, but Mr. Crawshay has succeeded in tracing it. It was sold by Lord Londesborough to Mr. W. Lee, of Downside, who in turn sold it to Mr. Lea, of Worcester, who has it still. Mr. Crawshay, however, has acquired a portion of it. There was also a flower from the original plant of O. × Wilckeanum, of which Mr. Crawshay has also obtained a part. We were able to compare these two flowers side by side, and came to the conclusion that both were forms of the same hybrid between O. crispum and O. luteopurpureum, the former having a white ground and few spots, and the latter a yellow ground and much larger blotches. Numerous intermediate forms are, however, now known.

In the preceding circumstance we have very practical evidence of the utility of a collection of dried flowers, and with it we must take leave, for the present, of Mr. Crawshay and his highly interesting collection.

HÆMARIA DAWSONIANA.

A FINE specimen of this handsome Orchid, bearing eight racemes, is figured in a recent issue of the *Gardeners' Chronicle* (1904, i., p. 387, fig. 170). It was grown in the Cambridge Botanic Garden, and Mr. Allard remarks that of all the Anœctochili, grown for their beautiful foliage, he finds it the easiest to keep in good condition. Apart from the deep olive-green foliage, with its copper-coloured veins, it is an extremely pretty plant when in flower. It blooms annually about Christmas time, and the flowers remain in good condition for at least a month. They are pure white, except for an orange yellow blotch on the column. The scapes are covered with short downy white hairs. Contrary to what might have been expected, the plant does not seem to suffer by being allowed to flower for so long a time. It is grown under a bell-glass among other Orchids, where a minimum temperature of 60° F. is maintained, and where it is protected in summer from strong light by the shade afforded by the leaves of taller plants standing round about it.

CULTURE OF PHALÆNOPSIS.

AN article by Dr. R. Schiffmann, St. Paul, Minn., entitled "How to succeed with Phalænopsis," appears in a recent issue of *American Gardening* (p. 397), and is accompanied by an illustration of part of the interior of the author's Phalænopsis House. A copy has been received from the author, showing numerous plants in robust health, all of which have been collected by him during the last three years. The following is condensed from the article in question, and may contain some useful hints, though with respect to shading and watering, growers should be guided by the conditions of their own locality.

No tropical Orchids surpass in magnificence of flowers and tender grace with which the flowers are displayed, the genus Phalænopsis. Another charm is their free flowering nature if certain conditions in their culture are observed. These supplied, we find them as easy to grow as Cattleyas, and indeed easier than many of that genus. Being natives of hot and moist countries of the Indian Archipelago, Java, Borneo, and the Phillippines, where they are found growing on bare rocks and on the branches and trunks of trees in shady situations on the hillsides, and in the craters of extinct volcanoes, gives us a hint as to their proper culture. Like most Orchids, they have their season of rest and season of growth, corresponding to the dry and wet seasons of their native habitat, bearing in mind, however, that in the dry season they are subjected to heavy dews in the night, which prevents their drying out, and furnishes sufficient moisture for the well-being of the plant to tide over the dry season. When the rainy season sets in, they are subjected, first to light showers, and later on to drenching rains, alternated with glimpses of sunshine and moderate breezes, the day temperature being in the nineties to one hundred degrees, dropping to 68° or 70° before daylight.

The treatment given is substantially as follows: When the plants arrived, they were spread out on a lattice bench in a warm, moist, low, even span greenhouse running north and south, the glass being shaded, yet admitting sufficient light. They were sprayed occasionally with a hose until they showed signs of activity by new root growth. When sufficiently advanced they were placed in pans, pots, or baskets with crocks for drainage, and fixed firmly in a good quality of live sphagnum. They were sprayed regularly with the hose twice a day according to the weather, the last wetting being given early enough in the afternoon to insure dry foliage before nightfall. In cold or chilly weather, wetting the floor and sides of the house is sufficient to keep up a buoyant atmosphere. Heat is given according to the outside temperature, and is kept up until the end of June, and again started up in the fall months. Bottom air is given at all times

according to the weather, and top air only when the temperature of the house exceeds 95° Fahrenheit.

The main secret in the successful cultivation of Phalænopsis is to give them an abundance of heat and atmospheric moisture during the growing season, reducing the quantity when they have completed their growth. During the resting season they should have just a sufficient spraying to keep the sphagnum moist, but not wet. They are easily injured if watered too late in the day, preventing evaporation of water lodged in their crowns, insuring rot, or watering overhead and keeping the house at too low a temperature, which produces spot on the leaves and disfigures them badly. In their native habitat they never grow upright as in cultivation, but the leaves hang downward, making it impossible for moisture to remain in their crowns.

By all means avoid too low a night temperature in winter; 55° is the minimum. We tried a lower temperature on a lot of Phalænopsis grandiflora from the altitudes of Java, with results that the experiment will not be repeated.

Properly grown, the plants will increase in size from year to year, and produce spikes with from twelve to forty, and even a hundred or more flowers (as in Phalænopsis Schilleriana) lasting several weeks in perfection if kept dry. After flowering, the old spikes should not be cut very close, as they often break again on these and produce a second crop of flowers. Phalænopsis Lueddemanniana produces young plants on the flower spikes, and P. Schilleriana and P. Stuartiana often produce them on their roots.

The species grown are P. amabilis, P. Aphrodite, P. Schilleriana, P. Stuartiana, P. Lueddemanniana, P. Esmeralda, and P. amethystina, with the natural hybrids P. × intermedia and P. × leucorrhoda.

EXTINCTION OF NATIVE ORCHIDS.

IT has been a wonderful season for wild Orchids, and there has been quite a general interest shown in these aristocracy of the native flora. The pretty bee Orchid has been frequently worn for the buttonhole. It may interest many to know that the following kinds are still found in Bedfordshire:—Bird's Nest, Tway Blade, Lady's Tresses, White Helleborine, Pyramid, Dwarf, Green-winged, Purple, Marsh, Spotted, Bee, Fly, Fragrant, Frog, and Butterfly—sixteen species. The Spider has one doubtful mention. The Bog Orchid (Malaxis paludosa) grew on Potton Marshes a hundred years ago, and is probably extinct, but is scarce, and is easily overlooked. The Marsh Helleborine (Epipactis palustris) was found on Stevington Bogs over a century since, and at Gravenhurst in the early part of the last century, but is regarded as extinct.—*Journal of Horticulture.*

PLATYCLINIS FILIFORMIS.

A FINE healthy specimen of Platyclinis filiformis with nearly one hundred flower spikes is now flowering in Sir Trevor Lawrence's collection at Burford. This lovely species was discovered between sixty and seventy years ago, and flowered for the first time in Europe in 1841. Coming from the Philippine Islands, it was, for many years, considered necessary to subject the plant to the highest temperature available in our Orchid houses, in order to grow the plant to perfection, but in the majority of cases the foliage became infested with insect pests, and the plants gradually deteriorated. The specimen plant above mentioned has, for the past ten years, been suspended to the roof of the Intermediate House, where such Orchids as Miltonias, Epidendrums, and Sobralias are usually cultivated. Immediately growth commences the plant is taken down daily and subjected to a thorough damping overhead with a fine sprayer, by which practice the plant is never attacked with red spider, and the foliage is kept fresh and healthy. Even during the resting season it is advisable to sponge the leaves occasionally, and to spray them over two or three times every week. Overhead syringing is not advisable while the plant is in flower, but the leaves should be sponged instead. While growing, the plant should be freely supplied with water at the root, the quantity being diminished in the dormant period just sufficiently to keep the compost moist. Shallow pans are preferable to Teak wood baskets, and these should be well drained, and repotting should be done within a short time after flowering. A compost of fibrous peat, leaf soil, and sphagnum moss in equal parts, with the addition of a few broken crocks and silver sand, well mixed together, will suit its requirements admirably. The flower stalks of this species are very slender, and the raceme bears from 80 to 100 flowers of a uniform canary colour. The individual flowers are among the smallest in the Orchid family, but the graceful racemes produce a most striking and pleasing object.

P. uncata is similar in habit to P. filiformis, the flowers being also very small, but of a greenish colour. Its flowering season is in winter. P. glumacea was discovered about the same time as P. filiformis, but in appearance it is quite distinct from that species. It blooms during March and April, and the pendulous racemes of yellowish white flowers have a very pleasant fragrance, very similar to newly mown hay. It has often been remarked by visitors that the racemes when fully developed have the appearance of long ears of corn. P. glumacea valida is very robust and distinct in appearance, with leaves nearly twice as broad as those of the type, but the flowers of both plants are almost identical. P. Cobbiana is another very pretty and distinct species. It was introduced about twenty-five years ago by Messrs. Low, through their well known collector,

Mr. Boxall, who is now a member of the Orchid Committee of the Royal Horticultural Society. P. Cobbiana flowers rather late in the autumn. Its zigzag rachis is very peculiar, densely flowered, and the flowers are small, and pale straw yellow, with an orange yellow lip. The cultural directions given concerning P. filiformis are also applicable to the other species enumerated, and they are all well worth adding to every Orchid collection.

W. H. W.

ODONTOGLOSSUM × BRANDTII.

A VERY interesting plant was exhibited at the R.H.S. meeting at Holland House, Kensington, on July 12th, by Herr Otto Beyrodt, of Berlin, namely, Odontoglossum Brandtii (Kränzl & Wittm., in *Gartenfl.*, xxxviii., pp. 378 537, t. 1308). It was described in 1889 as a new species, from the collection of Herr R. Brandt, of Charlottenburg, allied to O. Pescatorei, O. cirrhosum and O. hastilabium—which, by the way, belong to three different groups. From the examination of the figure I came to the conclusion that it must be a natural hybrid, and at first referred it doubtfully to O. × excellens (*Orch. Rev.*, ii., pp. 200, 201), but afterwards to O. × lepidum (*l. c.*, xi., p. 35). An inspection of Herr Beyrodt's authentic plant shows that the latter view was correct, and also that the figure is somewhat inaccurate. The sepals are narrower, and more acuminate than represented, and the lip also too broad, and these discrepancies of course added to the difficulty of recognising it—in fact prevented its being identified with O. × elegantius, Rchb. f., which was then well known. It now appears that O. × lepidum, O. × stauroides, and O. × elegantius, all of Reichenbach, are forms of the same hybrid, to which O. × Brandtii also belongs, the parents being O. Pescatorei and O. Lindleyanum. O. × lepidum was the earlier, being described in 1883 (*Gard. Chron.*, 1883, ii., p. 526). Its history has already been given (*O. R.*, ix., p. 56). The plant exhibited bore a branching inflorescence and numerous flowers. The sepals and petals are lanceolate, acuminate, 1¼ to 1½ inches long, and the ground colour light yellow, the sepals having an oblong brown marking or a few confluent spots at the base, with a purplish stain behind, and the petals a narrow line at the base. The latter are undulate, and there is an occasional spot on some of the segments. The lip is pandurate with a broad base, and a shortly acuminate recurved apex. The ground colour is very pale yellow with a broad purple-brown band round the side lobes of the lip, and sometimes a small spot in front of the crest. This latter consists of two diverging lobes with an occasional lateral tooth, and the column wings are small and entire. It is interesting to be able to clear up the history of the plant.

R. A. ROLFE.

CATTLEYA WARSCEWICZII.

IN the ORCHID REVIEW of June, 1903, you reproduced a photograph of one of my plants of Cattleya Schrœderæ (*O.R.*, xi., p. 177, fig. 36), and at the same time made inquiry as to whether special treatment had been given. I now send you a series of photographs of Cattleya gigas that I have been permitted to take. These plants were grown at "Onunda," Madison, the beautiful estate of D. Willis James, Esq., whose gardener is Mr. W. Duckham, and where many things besides Cattleyas are well grown. Photograph

FIG. 38. CATTLEYA WARSCEWICZII.

No. 1 is of a plant of Cattleya gigas in a 14 inch basket, and carrying 60 large flowers. No. 2 is of a small plant of 10 bulbs and one lead. It had a gigantic spray of 10 immense flowers, all of which finished perfectly. No. 3 shows the same spike taken larger. No. 4 is a plant that had 4 sprays of flowers numbering respectively 5, 7, 8, and 9, whilst No. 5 shows a plant that bore two sprays of 7 and 8 flowers. These were the selected examples from a batch all well grown and flowered.

Among the Orchids at Florham Farms, Cattleya Gaskelliana has been a feature this year. About 3,000 flowers were cut of this species alone, and a number of sprays bore 7 flowers. Photograph No. 6 shows a plant having 26 flowers, one spray of 7 and another of 5.

In neither case has there been any special treatment to bring about such profusion of bloom, but without a doubt the abundant sunshine that prevails here is a strong factor supplemental to the grower's skill.

Mr. Duckham has all his Cattleya gigas in baskets hanging from the roof of his Cattleya house. Their rooting medium is our ordinary peat or fern root fibre, and the plants afford the best evidence of its suitability.

A. HERRINGTON.

Florham Farms,
Madison, N.J., U.S.A.

This is a series of excellent photographs, and as Cattleya Warscewiczii —more commonly known by its later name of C. gigas—has not yet been figured in our pages, we have selected one of them for reproduction. It is the one marked No. 5 of the series, and we think best shows the character of the species. No. 1 shows a remarkable plant, so completely smothered in flowers that little else is visible. A ten-flowered inflorescence, as shown in photographs 2 and 3, is certainly exceptional, and forms a tribute to the excellence of Mr. Duckham's method of culture, no doubt, favoured by the abundant sunshine of the district, which we believe tends to develop floriferousness in this genus. Photograph 4 shows a most beautiful specimen, but would have almost monopolised the page unless further reduced, and the details are scarcely as clear as in the one selected. Like the others it deserves a "Cultural Commendation." The photograph of C. Gaskelliana also shows a noble specimen, and the seven-flowered inflorescence is remarkable. The plants are remarkably floriferous, and it is interesting to know the conditions under which they were grown. Mr. Herrington adds that Mr. D. Willis James is a brother of Mr. W. James, of West Dean Park, Goodwood.

The history of this fine species was given at pp. 299, 300 of our second volume.

SOCIETIES.

ROYAL HORTICULURAL.

A MEETING of this Society was held in the grounds of Lord Ilchester, Holland House, Kensington, on July 12th and 13th, and brought together a very good display of Orchids, the awards consisting of one gold and three other medals, two Silver Cups, three First-class Certificates, three Awards of Merit, and two Botanical Certificates.

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), exhibited a rich and varied group, for which a Silver Cup was awarded. It contained forms of Odontoglossum crispum, including O. c. Mary Colman, O. c. Mrs. J. Colman, and O. c. Bonnyanum, the latter a very fine purple form; O. luteopurpureum, Oncidium Forbesii, O. macranthum, O. crispum, Cattleya Leopoldi, C. Forbesii, C. Warscewiczii, C. granulosa, C. Mossiæ, and C. M. Reineckeana; Cochlioda Nœtzliana, Lælio-cattleya × Sunrise, L.-c. × Schilleriana, a rich L.-c. × callistoglossa superba, L.-c. × Martinetii, Lælia tenebrosa, Masdevallia × Cortauldiana, Nanodes Medusæ, some good Miltonia vexillaria, Cypripedium callosum Sanderæ, C. Godefroyæ leucochilum, Dendrobium Dearei, Epidendrum prismatocarpum, and Lycaste leucantha.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), was awarded a Silver-gilt Flora Medal for a fine group, containing Cochlioda Nœtzliana, Sobralia macrantha, S. xantholeuca, S. × Wiganiæ, Lælio-cattleya × eximia, Cattleya × Adonis, C. Eldorado, C. Mendelii Lowiæ, C. Gaskelliana, two fine C. Warscewiczii, Phalænopsis speciosa, P. violacea, Zygopetalum × Rœblingianum with two racemes and six flowers, Cypripedium Parishii, three plants of C. superbiens, C. Lawrenceanum Hyeanum, C. Stonei, and C. Godefroyæ leucochilum.

R. Briggs Bury, Esq., Bank House, Accrington (gr. Mr. Wilkinson), exhibited Cypripedium Lawrenceanum Hyeanum Bank House variety, the flower being large, green and white, slightly tinged with brown on the lip; and Odontoglossum crispum Oakfield Sunrise having eight flowers, the latter receiving a First-class Certificate. The petals were more uniformly bright reddish brown than in 1900, when it received an Award of Merit from the R.H.S It was then described in these pages (vol. viii., p. 106).

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent a very good form of Cattleya Gaskelliana called Rosslyn variety, and C. Warscewiczii Rosslyn variety, the latter receiving an Award of Merit. It is a large and delicately coloured variety, having the sepals and petals light blush pink, and the lip very slightly darker, with the usual pair of eye-like blotches on the disc of a very pale yellow.

J. F. Alcock, Esq., Northchurch, Berkhampstead, showed Cypripedium × Gloriana (× Harrisianum superbum × niveum), a well shaped flower having the white ground colour tinged with rose purple.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), exhibited Odontoglossum × Rolfeæ × Pescatorei, a handsome hybrid most resembling the former, but having rather shorter and broader segments.

M. Jules Hye de Crom, Coupure, Ghent (gr. Mr. Coen), exhibited Cypripedium Lawrenceanum Hyeanum, Miltonia vexillaria Queen Alexandra, and Odontoglossum × Rolfeæ, the latter a very fine form.

Messrs. Sander & Sons, St. Albans, staged a magnificent group, to which a Gold Medal was awarded. The arrangement was most effective, and the more noteworthy plants included the beautiful Cattleya × Madame Myra Peeters (Gaskelliana alba × Warneri alba), several good forms of C. Mossiæ, including the varieties Wageneri, Reineckeana, and others, C. × Whitei superba, C. granulosa, C. Loddigesii, and C. L. alba, C. × Gaudii, some fine forms of Lælio-cattleya × Martinetii, two good L.-c. × elegans, L.-c. × Herode, L.-c. × Antigone, L.-c. × Lord Kitchener (C. Schilleriana × L.-c. × elegans), and others, Odontoglossum Uroskinneri album, O. ramosissimum bearing five large inflorescences, the richly coloured O. citrosmum purpurascens, Vanda cœrulea, the brilliant Cochlioda Nœtzliana, a very pretty Sophrocattleya × Chamberlainii, Oncidiums crispum and leucochilum, several fine Phalænopsis amabilis, Pescatorea cerina, Gongora galeata bearing five racemes, Dendrobium bicameratum, Thunia alba, some good Miltonia vexillaria, including a beautiful white form called The Bride, Cypripedium × Phœbe (philippinense × bellatulum), C. × Ultor, C. × Lord Derby, Masdevallia macrura, three plants of Ancistrochilus Thomsonianus, &c. A First-class Certificate was given to Lælio-cattleya × Henry Greenwood superba, a very large and richly-coloured form bearing a four-flowered inflorescence; Awards of Merit to Lælia × crispabrosa and Cattleya × triumphans (Dowiana aurea × Rex), most like an improved form of the latter parent; and Botanical Certificates to Saccolabium longicalcaratum and the pretty little Dendrobium bellatulum.

Messrs. Charlesworth & Co., Heaton, Bradford, showed a very effective group, which gained the award of a Silver Cup. It included Lælio-cattleya × Adolphus, several fine L.-c. × callistoglossa, L.-c. × Hippolyta Phœbe, L.-c. × Mucia Rossbach (C. Schilleriana × L. purpurata), L.-c. × Canhamiana, L.-c. × Remula, L.-c. × Martinetii, L.-c. × Aphrodite, L.-c. × Ingrami, Oncidium sarcodes, O. Gardneri, O. prætextum, O. phymatochilum, O. macranthum, Odontoglossum luteopurpureum, and several O. crispum, O. grande, Vanda cœrulea, Barkeria spectabilis, Brassavola Digbyana, Cattleya Mossiæ, C. M. Wageneri, C. M. Reineckeana, C. × Niobe, C. Gaskelliana alba, Anguloa uniflora, Brassolælia × Digbyano-purpurata, B.-l. × Helen, Epidendrum aurantiacum, Lælia tenebrosa, Promenæa stapelioides with ten flowers, and Mormodes luxatum eburneum with a spike of nine flowers.

M. Ch. Vuylsteke, Loochristi, Ghent, staged a choice group of hybrid Odontoglossums, including O. × concinnum, O. × bellatulum, a fine O. × Harryano-crispum, O. × Rolfeæ Melpomene, O. × R. Aurore, both remarkably fine, O. × ardentissimum varieties Cybele and Eclair prettily spotted with rose-purple, and two examples of the white variety exornatum.

Messrs. H. Low & Co., Bush Hill Park, were awarded a Silver Flora Medal for an excellent group, containing Cypripedium × Shillianum, C. × gigas Corndeanii, C. × macropterum, C. × De Witt Smith, C. superbiens, Platyclinis filiformis, Cattleya granulosa, several good C. Loddigesii, C. L. alba, C. gigas, C. intermedia alba, a very fine C. Gaskelliana with ten flowers, C. Mossiæ, some varieties of L.-c. × Canhamiana, Aërides expansum Leoniæ, Phalænopsis amabilis Rimestadiana, P. Aphrodite, P. amethystina, the yellow Odontoglossum Schlieperianum citrinum, Lycaste leucantha, Masdevellia peristeria, the curious Bulbophyllum Sanderianum, Dendrobium Dearei, Disa × langleyensis, Oncidium divaricatum, and Cœlogyne asperata.

Herr Otto Beyrodt, Marienfelde, Berlin, exhibited a small group, containing the rare Odontoglossum × Brandtii, O. Schlieperianum Beyrodt's var. having bright yellow flowers, and eight good plants of Cattleya Warscewiczii, a First-class Certificate being given to var. Frau Otto Beyrodt. This was a most beautiful form, having pure white sepals and petals, and the front lobe of the lip bright crimson-purple, margined with white, while the side lobes were also of the latter colour, and the eye-like blotches on the disc were nearly white.

Messrs. Clibran, Altrincham, staged a few interesting Orchids, including Dendrobium atroviolaceum, Miltonia Rœzlii and its variety alba, rose and white forms of M. vexillaria, Odontoglossum crispum, Cypripedium Lawrenceanum Hyeanum, Oncidium varicosum Rogersii, and O. prætextum.

A tent was set apart for Horticultural Sundries, Implements, &c., including Orchid pots, insecticides, potting materials, &c. A Silver Banksian Medal was given to Messrs. Valls & Co. for their well-known Beetlecute. A similar award went to Messrs. D. Dowel & Son and Messrs. Corry and Co., while Messrs. Wood & Son received a Silver-gilt Flora Medal, and Mr. James George a Silver Flora Medal. These all included Orchid requisites in their exhibits.

THE second meeting of the month was held at the new Royal Horticultural Hall, Vincent Square, and brought together a very good display of Orchids for the season, including four groups to which medals were awarded, besides which two First-class Certificates, two Awards of Merit, and one Cultural Commendation were given by the Orchid Committee.

The meeting was distinguished by the appearance of the remarkable Angræcum infundibulare, now flowering in cultivation for the first time, and to which a First-class Certificate was given.

The Exhibition Hall is 141 feet long by 75 feet wide, and 48 feet high to

the underside of the roof lantern. The latter is of glass, consisting of three central arches surmounted by a lantern for ventilation. The building is heated by steam at low pressure, and the electric light is installed, so that the Hall is well adapted for its purpose. There are also two annexes, 46 feet long by 24 feet wide and 17½ feet high, in one of which the Orchid Committee sat.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), staged a select group of Orchids, to which a Silver Banksian Medal was given. It contained a fine specimen of Lælia xanthina, the handsome Cattleya × Thurgoodiana (Lueddemanniana × Hardyana), most resembling the latter but with a paler lip, C. × Mrs. J. W. Whiteley, the beautiful Sophrocattleya × Chamberlainii, Epiphronitis × Veitchii, Phalænopsis amabilis Rimestadiana, the handsome Stanhopea tigrina, Nanodes Medusæ, Lycaste leucantha, Cypripedium callosum Sanderæ, Odontoglossum crispum, &c. A Cultural Commendation was given to a fine well-grown specimen of Odontoglossum Uroskinneri album.

Jeremiah Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), also obtained a Silver Banksian Medal for a good group, containing the beautiful Sobralia × Veitchii, Cattleya Leopoldi, C. Warscewiczii, C. × Patrocinii, C. × Mrs. J. W. Whiteley, Stanhopea tigrina, S. Wardii, Lycaste leucantha, Epiphronitis × Veitchii, Cypripedium callosum Sanderæ, a fine plant of Lælia xanthina bearing sixteen flowers, &c.

The Right Hon. Lord Rothschild, Tring Park (gr. Mr. Dye), sent two very interesting plants. A First-class Certificate was given to Angræcum infundibulare, a remarkable species which has not previously appeared in cultivation. The flowers are very large, fragrant, and borne singly on the elongated stems. The sepals and petals are narrowly lanceolate, over two inches long, and greenish, and the lip large, with a white expanded limb, and a greenish funnel-shaped spur, terminating in a long slender tail. It is said to have been sent home by Major H. B. Rattray, from the Victoria Nyanza, Uganda, in 1902, a locality far distant from Prince's Island, where the species was originally discovered by Barter. An Award of Merit was given to Cattleya × Patrocinii Tring Park var., a large and handsomely spotted variety. It was from a batch raised at Tring Park from C. Leopoldi × Loddigesii, of which four other more ordinary forms were also shown, two of them being practically identical with the wild form.

J. Wilson Potter, Esq., Elmwood, Croydon (gr. Mr. Young), received an Award of Merit for Odontoglossum Uroskinneri splendens, a very large and handsome variety, having the sepals and petals yellowish, heavily marked with chestnut brown, and the lip almost entirely covered with dark rose marbling.

R. W. Beckett, Esq., M.P., Wood Lea, Virginia Water (gr. Mr.

Baskett), sent a fine branched inflorescence of Renanthera cocinnea, a handsome Orchid too rarely seen in cultivation.

W. P. Burkinshaw, Esq., West Hill, Hessle, Hull (gr. Mr. Barker), sent the beautiful Cattleya Warscewiczii White Queen, having pure white sepals and petals, and the lip marbled with dark rose.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Odontoglossum × loochristiense Theodora, a handsome white form with blotched segments, O. Harryanum rosefieldiense, O. × elegans, and O. × Crawshayanum (Hallii × Harryanum).

W. W. Mann, Esq., Bexley, Kent (gr. Mr. Simon), sent two well-grown plants of Oncidium Lanceanum, one being the typical form, and the other a nearly white-lipped variety.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Gilbert), sent Lælia × Iona nigrescens, a very richly coloured form, Cypripedium × vexill-Io, and C. × Harveyanum (Stonei × Leeanum), a pretty hybrid bearing a considerable resemblance to C. × Alice.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a splendid group, to which a Silver-gilt Flora Medal was awarded. It contained several good examples of Vanda cœrulea, many fine forms of Lælio-cattleya × callisto-glossa, L.-c. × Penelope, L.-c. × Rudolph aurifera, L.-c. × Adolphus, L.-c. × Nysa superba, Brasso-lælia × Digbyano-purpurata, B.-l. × Helen, Brasso-cattleya × Maronæ, Oncidium macranthum, Cœlogyne Sanderiana, Platyclinis filiformis, Masdevallia torta, M. calura, M. × Courtauldiana, Cypripedium × Mrs. H. Druce, C. × Schillianum, C. × A. de Lairesse, Cattleya Gaskelliana alba, C. × Niobe, C. × Hyades, C. × Hardyana, home-raised, and others, the whole being very effectively arranged. A First-class Certificate was given to Cattleya × F. W. Wigan superba (Schilleriana × Dowiana aurea), an extremely fine form, having cream-yellow sepals and petals lightly tinged with rose, and the lip rosy crimson, with darker veining, and a yellow blotch in the centre.

Messrs. Sander & Sons, St. Albans, received a Silver Flora Medal for a large and very varied group containing many interesting rarities, including the fine Houlletia Brocklehurstiana, the very curious Polycycnis muscifera, Polystachya leonensis, Vanda limbata, Pachystoma Thomsoniana, Sacco-labium retusum, Catasetum macro-carpum viride, the dark red Mormodes badium, Dendrobium Fytchianum, D. ciliatum, D. superbum, Masdevallia Harryana Sanderæ, a pretty white form slightly tinged with yellow, Platyclinis filiformis, Cypripedium callosum Sanderæ, C. præstans, C. × Mrs. Butterworth (Lawrenceanum × nitens), C. × Lamonteanum superbum, Cattleya Gaskelliana alba, the fine C. × Wavriniana, C. × Parthenia Princess, C. × Vulcain, and C. × Shakespeare, together with a lot of good Lælio-cattleyas. These included L.-c. × Oracle (L. pumila × L.-c. ×

Schilleriana), L.-c. × bletchleyensis, L.-c. × Atalanta, L.-c. × Henry Greenwood, L.-c. × Martinetii, and L.-c. × Purple Emperor (L.-c. × callistoglossa × C. Warscewiczii).

Messrs. Hugh Low & Co., Bush Hill Park, also obtained a Silver Flora Medal for a fine group, containing some good forms of Cattleya Gaskelliana, C. Leopoldi, C. × Mary Gratrix, C. Warscewiczii, C. Grossii, Brassavola Digbyana, Lycaste leucantha, L. tricolor, Bollea cœlestis, Mormodes pardinum aureum, Phalænopsis violacea, Dendrobium cruentum, Odontoglossum Williamsianum, a fine pan of Cypripedium × gigas Corndeanii, C. × Maudiæ, a very fine C. × I'Ansoni under a bell-glass, C. × grande, and C. × Schillianum.

Messrs. A. J. Keeling & Son, Westgate Hall, Bradford, showed Masdevallia Harryana alba, having yellowish white flowers.

CYPRIPEDIUM NIVEUM.

THIS beautiful, yet with many a very difficult, Orchid to grow, has once again been imported, providing an opportunity to replenish stock. When the plants are received place them for a few days in a somewhat cool and moist, shady house, and on a bed of good sphagnum moss. The roots will soon begin to recover, when potting may be proceeded with, using a compost of two-thirds good loam and one-third leaf-soil, with a liberal sprinkling of small crocks, old mortar rubble, and coarse sand. Pots made for suspending are the most suitable receptacles, as depth is more important than width. After all the dead roots and leaves have been cut away, place the live roots so that they go straight down, and build up the compost around them, intermixing pieces of soft red brick about the size of a walnut. I consider this important. We find the roots naturally take a straight downward course, so by building up, so that when finished there are practically rows of compost and rows of soft brick, the roots strike down freely between. We find this species grows very freely when treated thus, while it deteriorates rapidly when grown on the principle of keeping the plants on the dry side. We now have flowers practically all the year. Suspend the plants in the warmest and shadiest part of the Cattleya house.

C. concolor, C. bellatulum, and C. Godefroyæ all succeed if treated in the same way. I am convinced that many failures have accrued from keeping this section of Cypripedium much too dry, and by potting in such a way that the roots are prevented from going in the direction they prefer. We do not repot more than is absolutely necessary. From time to time it is essential to divide the plants; the divisions soon start growing, and the stock is thus increased and kept vigorous.

W. P. BOUND, in *The Garden.*

DENDROBIUM BRYMERIANUM.

THE annexed figure represents a flower of the remarkable Dendrobium Brymerianum, and is reproduced from a photograph sent by R. G. Thwaites, Esq., of Streatham. The species is a native of Burma, and was introduced by Messrs. Hugh Low & Co. in 1874, and described by Reichenbach in the following year (*Gard. Chron.*, 1875, ii., p. 323). It first flowered in the collection of W. E. Brymer, Esq., Ilsington House, Dorchester, after whom it was named. It does not appear to have been fully developed when it first flowered, and the author remarked that the

Fig. 39. DENDROBIUM BRYMERIANUM.

broad fimbræ gave him a little shivering of fright, and he felt rather suspicious of the beautiful flower, as there was a strong tendency in the column towards becoming triandrous. Such a fringe might well appear anomalous on its first appearance, but it was soon clear that it was no abnormal character, and a few months later Reichenbach wrote: "When I described this species I had no idea how beautifully it develops . . . . the whole anterior part of the lip is solved in very long fringes." A somewhat similar arrangement is found in the petals of D. Harveyanum, a remarkable plant which was figured at page 313 of our last volume, and one cannot

help wondering what its particular use to the plant is. It probably has some definite relation to the insect which fertilises the flowers, but about this we know nothing. The lip of D. Harveyanum is only slightly fringed. The two plants are both allied to D. fimbriatum, a species which owes its name to the character of the lip, though the fringe is quite rudimentary as compared with D. Brymerianum. A form of the latter was, however, described as var. histrionicum (Rchb. f. in *Gard. Chron.*, 1888, i., p. 104), in which the fringe is very little developed, and the flowers are said to be self-fertilising before they expand, and are rarely properly developed. Curiously enough, it is said to flower invariably in autumn, while the type flowers in spring. It is not comparable with the type from a decorative standpoint. The latter is a very striking plant, and extremely handsome when well grown. It has proved rather disappointing to the hybridist, for only one hybrid from it is yet known, namely Dendrobium × Hunteri, and that shows little of the character of this parent.

CALENDAR OF OPERATIONS FOR AUGUST.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE temperature and general management of the houses should be continued as advised in the preceding Calendars.

There will soon be many Dendrobiums which have completed their new pseudo-bulbs, and will need removing to a cool, light, airy house, so as to thoroughly ripen and mature them, though at the same time the supplies of water should not be too suddenly reduced. The whole of the genus, with but few exceptions, absolutely requires this treatment of plants that are expected to bloom well, and to remain healthy. Both species and hybrids should be so treated, and no fear or apprehension whatever need be felt with regard to the consequences. Select each plant for removal when the new pseudo-bulb has produced its terminal leaf; the new bulb will gradually gain in dimensions in the cooler department, and also ripen at the same time. There may be some few kinds which start new growths again from the base, before the first is completed, but such second growths should be disregarded, as they usually make up all right. It is the first growths that are the chief ones, and these should be alone studied and cared for. It is when Dendrobiums are kept in growing temperatures until very late in the season, in order to finish their second growths, that they are often very seriously injured by becoming weakly, and developing spot in its various forms. A few species, such for instance as D. formosum, should not be removed immediately the new pseudo-bulb is completed, because the flowers commence to push from the apex at once, and of course the drier and more airy conditions would seriously affect them. The same may be

said of D. Phalænopsis, D. superbiens, and all others which bloom directly new growth is completed. These latter should be allowed to remain in their genial growing departments, which, however, need not, and should not, be kept so warm as previously when making growths. All other Dendrobiums that are now in full growth must have liberal treatment both at the root and in the atmosphere.

Calanthes are now growing vigorously, and will require an abundant supply of moisture at the root, but it must be given with discretion, or the dreaded spot and disease will be the result. Where the pots have become full of roots, alternate waterings with liquid cow manure will be conducive to the formation of stout pseudo-bulbs and strong flower spikes.

The species of Barkeria, as B. elegans, Lindleyana, and cyclotella, are not often seen in very flourishing condition, but are well worthy of attention, their pretty spikes presenting a gay appearance during the dull season. They thrive well when fastened to teak rafts, upon which is placed some living sphagnum moss, and suspended close to the roof of the Intermediate house, where they will get plenty of light but not actual sunshine. Barkerias, like many other Orchids, are very sensible as to their likes and dislikes, and when once a suitable position has been found for them, there they should remain.

A good many Cattleyas and Lælias are near completing their new pseudo-bulbs, C. Warscewiczii (gigas), C. Gaskelliana, C. Rex, C. Warneri, as well as C. Leopoldii and C. granulosa, produce their blooms immediately, and should therefore have a liberal growing treatment accorded until their flowering period is past, but all others which have a short resting season before producing their spikes are the better for a rather more airy and dry position than those which are still growing. This is not always easy to accomplish for want of the necessary space, but if such plants are collected together at one point of the house they may be the better attended to than when mixed up with those in a growing stage. It is only for a month or so at this season of the year when this slight difference of treatment is needed. A few of these Cattleyas, for one reason or another, are sure to be late with their new growth, and it is obvious that such are benefited by a liberal treatment to hasten them along, whilst those which are early to form up would be better for less, so as to prevent secondary growth from appearing. C. Lawrenceana is always very late, and for this reason is better now if placed in the warmest department, as also are C. superba and C. Lueddemanniana, and all three may be given plenty of water. Any of the above summer-blooming Cattleyas as C. Warscewiczii, C. Gaskelliana, C. Warneri, &c., passing out of bloom not later than the month of August, may be repotted if such is required, and if done carefully and a chance is given them to become re-established, by keeping them more shady and moist than others

not repotted, such work may be accomplished at this season with good results. But if not done during the month I would advise that they be given a thorough good rest and left over until they start to grow early the following spring.

The Mexican Lælias are now growing apace, and flower spikes on L. anceps are fast showing. It is now, above all other times, that water should be very liberally supplied, especially after a hot day sun. It is best to get a bucket of tepid water about 4 or 5 o'clock in the afternoon, when the ventilation may be reduced, and with the aid of a syringe give them a thorough drenching overhead. L. anceps, as before stated, always grows and flowers more satisfactorily when no shading is employed, and the leaves are simply kept from burning by the admission of large quantities of air. There are but few species that will flourish and withstand the same treatment. L. majalis is another which delights in all the sunshine possible, and should be suspended close to the ventilator so as to assure plenty of air. The other Mexican species, such as L. autumnalis and L. albida, do not like so much strong sunshine, although both greatly appreciate the atmospheric conditions of the same department, therefore I always find it best to slightly shade them with a little summer cloud over the glass immediately above them. The same applies to L. furfuracea and L. Gouldiana.

The present season is a good one for doing up the various species of the Cool Orchid house which have not yet been done. Odontoglossum Rossii and O. Cervantesii are two pretty species which pay to grow well, so that they bloom profusely; otherwise, with individual flowers here and there only, they are too small to make a show. If the stages are near the glass roof, they will grow well there in pots, otherwise they are better in pans suspended. What little compost is required about their roots should be one of equal parts peat and sphagnum moss. They delight in a cool, airy atmosphere, and require but little water at the roots at any time of the year. Cattleya citrina is just now commencing to grow. It does well either on a raft or in small pans. When the latter are used they should be very small, just large enough to hold the base or the roots of the plants. The new growths will then turn over the rim, taking a downward course, and will continue to grow well. Use perforated pans, so that the roots may go in and out. It is a species that requires little water to keep it in good health. Odontoglossum Londesboroughianum is not one of the easiest to cultivate. It grows pretty freely when newly imported, but in the course of a few years dwindles, and often, without so much as producing one single flower spike to compensate for the trouble taken, will grow less by degrees until it finally disappears. In the first place it may be described as being a cool Orchid, but a sun-loving one, therefore it should have an abundance of air and never be shaded. The plant may be fixed to blocks of wood, and so grown suspended,

but I prefer pans or baskets with the usual compost of peat and moss. The plant when first imported may probably be ill-shaped for repotting, but although its habit of growth is straggling, a way can generally be found to secure the plant firmly in its receptacle, which, when done, is more easily and better managed than on a raft. During summer, when growth is active, it may be syringed frequently, but during winter a long and very dry rest must be given.

ORCHIDS IN SEASON.

A SERIES of five seedling forms of the beautiful Odontoglossum × Rolfeæ is sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. They were raised in the collection, and Mr. Stevens remarks that the one exhibited at the R.H.S. meeting at Holland House as O. × Rolfeæ × Pescatorei is another seedling from the same batch. On searching his books he discovered that a mistake had been made in the record. The seedlings show a good deal of variation in the breadth of the segments, and one of them is particularly promising, as all the segments are short and broad, the lip measuring an inch across in front, and the dorsal sepal and petals only a line narrower, while the spots on the sepals are arranged in lines. Another contrasts strongly with this, having much longer segments, and thus approaching O. Harryanum in shape. The others are more intermediate in shape. The inflorescences at present bear from four to seven flowers, and when the plants become stronger they should develop into very handsome things.

Two fine flowers of the handsome Stanhopea tigrina are sent from the collection of J. H. Grogan, Esq., Slaney Park, Baltinglass, together with a good spike of Aërides odoratum and A. expansum Leoniæ, and a well-coloured form of Lælia × cinnabrosa. The Stanhopea is one of the most

by Mr. R. Nisbet, Byrkley Gardens, Burton-on-Trent, which received an Award of Merit from the Manchester and North of England Orchid Society in 1901. The flowers have an expanse of nine inches across the petals, and all the organs of the flower are correspondingly well developed.

DENDROBIUMS AT WEYBRIDGE.

IT may be remembered that last spring a magnificent group of Dendrobiums from the collection of W. A. Bilney, Esq., Fir Grange, Weybridge, was exhibited at the Drill Hall, and gained a Gold Medal (see page 117). An interesting note on the collection, by Mr. J. Cornhill, appeared a short time ago in *The Garden* (1904, i., p. 275), in which it is explained how Mr. Bilney came to take up Orchid culture: "It may surprise many when I say that the high development of these Dendrobes represents some seven years' labour only in the field of Orchid culture. Less than a decade ago neither Mr. Bilney nor his gardener (Mr. Whitlock) knew anything about Orchids. It happened that someone offered him several Orchids, which he accepted with the remark that he knew nothing about them, but would try and grow them. Bit by bit master and man puzzled the thing out, gradually new plants were purchased, and now there is probably no better grown lot of Orchids in the country. This should be a lesson and an encouragement to those who have had no early training in Orchid culture."

ERIA AMICA.

THIS is a pretty little Eria which flowered in the collection of John Day, Esq., of Tottenham, in January, 1867, and was described and figured by Reichenbach (*Xen. Orch.*, ii., p. 162, t. 168, fig. 3), but seems to have been afterwards lost sight of. The figure, like most of those in the *Xenia*, is very rude, but Mr. Day made an excellent painting (*Coll. Draw.*, xi., t. 63), which shows it to be a plant well known in cultivation under the later name of E. confusa, Hook. f. (*Hook. Ic. Pl.*, t. 1850). It had previously been confused with E. excavata, Lindl. Mr. Day's plant came from Assam, having been sent to him, as his notes explain, by his nephews, William John and Charles Williamson. It has since been sent from the same country, and from the Chin Hills, being also a native of Nepal and Sikkim. It belongs to the section Hymeneria, and bears racemes of several flowers, having the sepals and petals yellowish green, lined with five light reddish brown nerves, and a yellow lip with a red brown band on the side lobes, and a round blotch of the same colour at the base of the front lobe. The discovery removes another species from the list of doubtfuls.

R. A. R.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Society's New Hall, Vincent Square, S.W., during August, on the 9th and 23rd, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on August 11th and 25th. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

A drawing of the handsome white Lælia purpurata Queen Alexandra, which was exhibited at the Temple Show, is sent by Messrs. William Bull & Son, Chelsea. The albino form of this species is very rare.

Mr. E. V. Low sends the following interesting note respecting a plant of Oncidium phymatochilum in the collection of T. Miller Crook, Esq., Stanley Grange, Hoghton, near Preston. The plant was a perfect picture in itself. The spike stood fully 5ft. high, and the branches were over 3ft. across in either direction. There were thirteen sprays on the spike, varying from twenty-five to thirty flowers on each, and the aggregate would total up to fully 400 blooms. The plant was by no means a specimen, having nine bulbs and one lead only.

At the Hanley Horticultural Fete, held on July 6th and 7th, prizes were offered for a group of Orchids in bloom, arranged for effect, not to exceed 100 square feet. The first prize was won by Mr. Blair, gardener to the Duke of Sutherland, Trentham; the second falling to Messrs. James Cypher & Son, Cheltenham; and the third to Mr. John Robson, Altrincham. Prizes were also offered for the best eight specimen Orchids, distinct, and here Messrs. Cypher were first, Mr. Blair second, and Mr. Robson third. The premier group consisted of Vanda cœrulea, Epidendrum prismatocarpum, with seven spikes, Cattleya granulosa, C. Warscewiczii, Brassavola Digbyana, Thunia Winniana, Aërides odoratum, and Cypripedium Curtisii.

A noble specimen of Dendrobium nobile, bearing 1,350 flowers, from the collection of A. Kellar, Esq., Sandown, Isle of Wight (gr. Mr. Bryant), is figured in the *Gardeners' Magazine* (pp. 424, 425). It is grown in a 15-inch basket, and is four feet through every way, forming a charming picture.

A fine specimen of Angræcum sesquipedale, from the collection of W. M. Hook, Esq., of Nottingham (gr. Mr. Bacon), is figured in a later issue

of the same work (1904, pp. 493, 494). It was imported about thirteen years ago, when it had only three pairs of leaves, aud has been grown in intermediate temperature ever since. Now it a fine plant, with branched stem, and seven spikes of flowers.

A fine group of Lycaste Skinnneri, in the collection of J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitelegge), is given in a recent issue of *The Garden* (1904, i., p. 340). Both plants and flowers are excellent. The interior of one of the Odontoglossum Houses is also shown (p. 341).

ORCHID PORTRAITS.

ANGRÆCUM SESQUIPEDALE.—*Gard. Mag.*, 1904, pp. 493, 494, with fig.

DENDROBIUM NOBILE (specimen plant).—*Gard. Mag.*, 1904, pp. 424, 425, with fig.

LÆLIA PURPURATA QUEEN ALEXANDRA.—*Gard. World*, 1904, p. 544, with fig.

LÆLIO-CATTLEYA ROSALIND.—*Journ. Hort.*, 1904, ii., p. 25, with fig.

MILTONIA × BLEUANA SPLENDENS.—*Journ. Hort.*, 1904, ii., p. 47, with fig.

ODONTOGLOSSUM CRISPUM BOLTONI.—*Gard. Chron.*, 1904, ii., p. 34, fig. 14.

ODONTOGLOSSUM CRISPUM OAKFIELD SUNRISE.—*Gard. Mag.*, 1904, p. 457, with fig.

SOBRALIA LUCASIANA.—*Journ. Hort.*, 1904, ii., p. 69, with fig.

SPATHOGLOTTIS HARDINGIANA, Par. and Rchb. f.—*Bot. Mag.*, t. 7964.

VANDA TRICOLOR.—*Amer. Gard.*, 1904, p. 413, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

J.F.S. Epidendrum aromaticum and Oncidium prætextum.

W.H.R. The dark coloured hybrid seems to be a form of Lælio-cattleya × Dominiana, the light coloured one of L.-c. × Martinetii. The latter especially is very variable, and it is becoming very difficult to name them when the parentage is not known.

J.G. We will report on them shortly. Some of our records are not available at the present moment, but we shall shortly be able to report progress.

J.M. The Sobralia seems to be a form of S. × Veitchii. We will report on the others shortly.

G.S. Many thanks.

Photographs received, with thanks, A.W.H. (one next month).

N.B.—Flowers are repeatedly sent with tickets wrapped round the stalk of the flower, and then tied or wired on in such a way that it is impossible to read the number or information. All such labels should be affixed so that the information can be read without detaching them.

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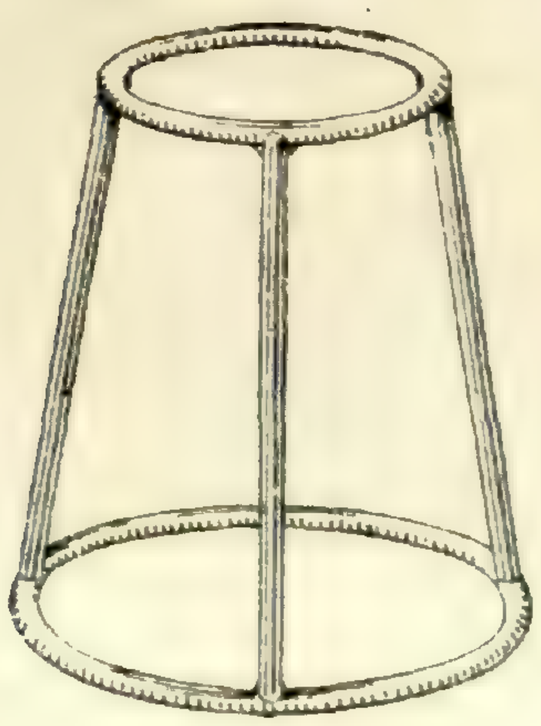

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NOTICE TO READERS OF

THE

ORCHID REVIEW

A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

Full details appeared in our March issue.

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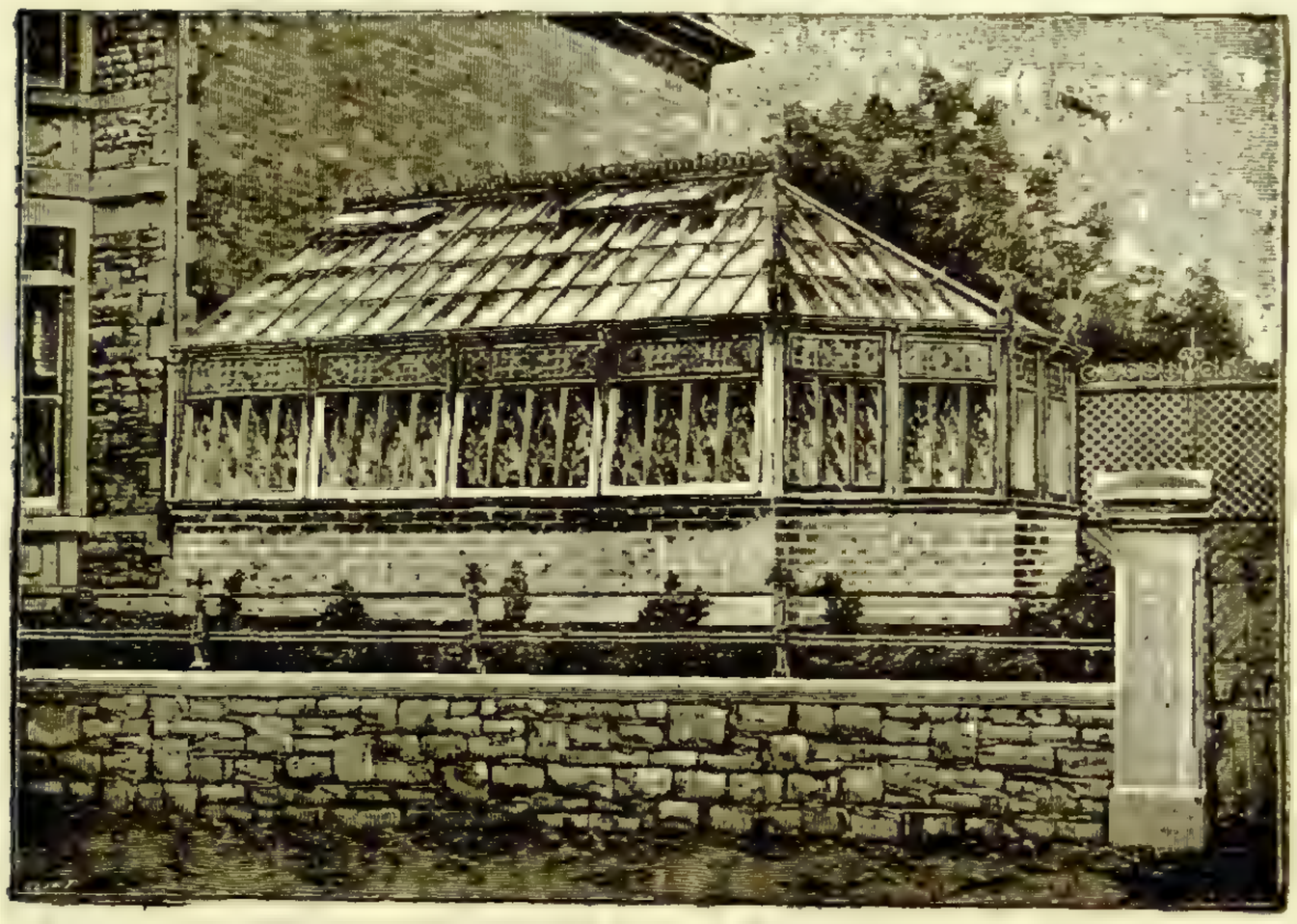

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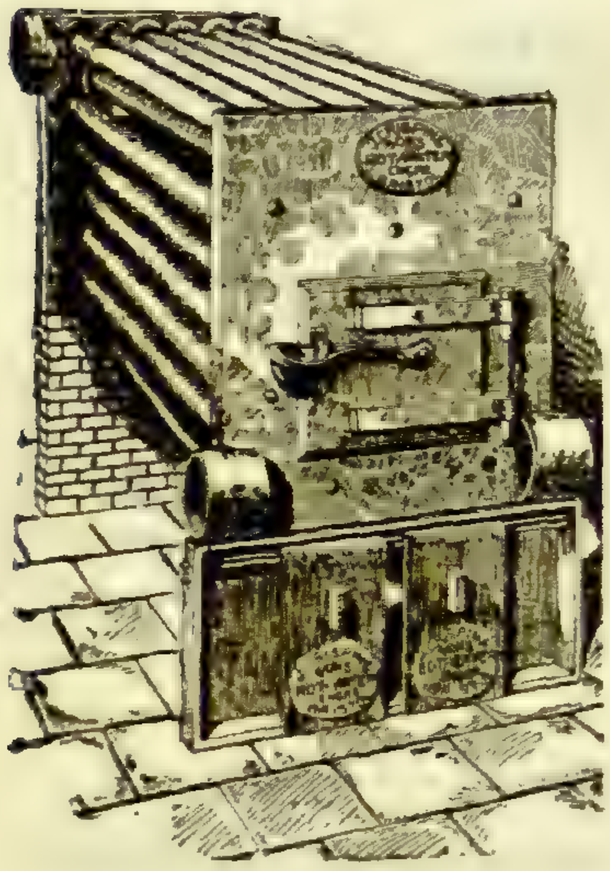

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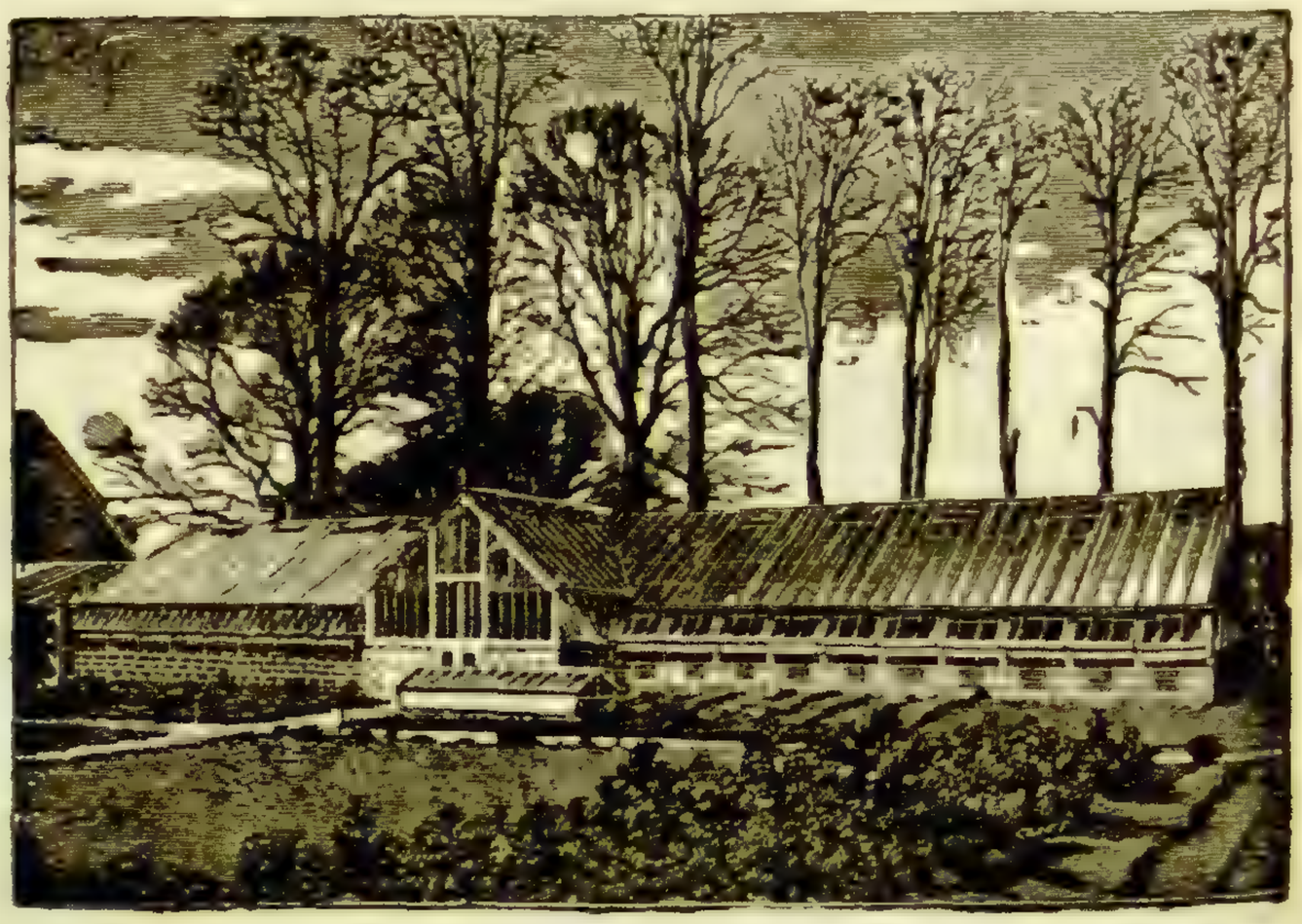

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An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XII.] *SEPTEMBER*, 1904. [No. 141.

THE AMATEUR'S COLLECTION.

OUR notes at pp. 154, 155, chiefly referred to the structure of the Orchid house and the necessary arrangements for heating, ventilation, shading, and damping down, in other words the provision of a suitable atmosphere, on which more than anything else successful Orchid cultivation depends. We now come to the selection of the most suitable plants, beginning with the Cool house, which is the usual one with those who have only a single house not divided into compartments.

At the head of the list we should place Cypripedium insigne as the amateur's Orchid *par excellence*. In fact we know of people who make no pretence to be Orchid growers who yet cultivate this plant. We have seen it thriving in an ordinary greenhouse, a vinery, or a stove, sometimes being put into a shady cold frame during the summer months; in ordinary compost, and invariably producing a crop of flowers when the autumn comes round. We have even heard of its being successfully grown in a window case. In fact it is very accommodating as regards treatment. And its flowers are striking in shape, and excellent for cutting, as they last a long time in water. Some of the best spotted varieties are very handsome, and the yellow forms of which the original Sanderæ is still the best, contrast with them very effectively. The upper part of the dorsal sepal is almost invariably white, and the lower (except in the yellow varieties) green, more or less heavily blotched with purple brown, the spots, however, being clear purple when they extend into the white area. The pots should be well drained, with a layer of moss over the crocks, and a mixture of fibrous loam and peat, with a little silver sand and moss to keep it open, forms an excellent compost. A few small lumps of charcoal may also be added. The compost should be pressed in firmly among the roots, and only moderately watered for a short time, but when established a liberal supply of water should be given, especially during the growing season.

No other species of Cypripedium thrives as well as C. insigne under cool treatment, but C. villosum, C. Boxallii, and C. Spicerianum may be grown in this house, though a warm and shady situation should be selected as far

as possible. Some of the hybrids of C. insigne are almost as accommodating as their parent, and particularly C. × Leeanum, of which C. Spicerianum is the other parent. Some forms of this are very handsome. C. × Arthurianum (C. insigne crossed with the rare C. Fairrieanum) is also a handsome hybrid which is very easily grown, and a similar remark applies to C. × nitens (insigne × villosum). These all flower during the autumn and winter months, and if the house contains a partition will succeed best in the warmer of the two compartments. All are terrestrial Orchids, and require similar treatment to C. insigne.

Cymbidium Lowianum will also thrive in a cool greenhouse, and may be grown under much the same treatment as Cypripedium insigne.

Among epiphytic Orchids Odontoglossums occupy the leading position, and the popular O. crispum is easily first favourite, though not the easiest to grow in all situations. A beginner would do well to commence with established or semi-established plants, but as imported bulbs can frequently be obtained at the sale rooms it may be well to commence with their treatment. When received they should be placed on a layer of sphagnum moss, and kept just moist, to enable the bulbs to plump up. As soon as any begin to push new roots they should be potted up in rather small pots, so that they may at once take hold of the compost. The latter should consist of fibrous peat and sphagnum moss, intermixed with a few oak or beech leaves, and after being pressed in firmly round the bulbs a few small sticks may be inserted, to keep the bulbs firm. Moderate waterings should be given until the roots have taken firm hold of the compost, and the growths are making good progress. If any flower-spikes appear they should be removed, or at most a single flower be allowed to remain just to show what they are like. The whole subsequent treatment should be directed to getting the plants strongly established, and any necessary repotting should be done just as growth recommences, and new roots begin to push. When they flower an occasional plant may prove to be O. × Andersonianum or some other of the O. crispum natural hybrids, or even some other species which grows with O. crispum, and there is the further possibility of getting one of those rare spotted forms which are so highly prized.

The other Colombian and Ecuadorean species require practically the same treatment, and among them the amateur will find a good selection. For example O. Pescatorei and O. triumphans, O. luteopurpureum, and O. Hallii, O. polyxanthum, O. cirrhosum, O. gloriosum, O. Edwardi, and others, which will give plenty of variety. And among other things requiring identical treatment may be mentioned Cochlioda Nœtzliana, C. vulcanica, and Ada aurantiaca. Keep them cool and moist during the summer, and shade well during bright weather. At other times they like plenty of light. Care should be taken not to over-water during the dull winter months.

Odontoglossum Rossii and O. Cervantesii are two very handsome Mexican species of very easy culture, but being rather dwarf they succeed best in pans suspended from the roof, leaving a clear foot between the foliage and the roof. The plants should be grown as strongly as possible, when they flower freely and are very effective. O. maculatum, O. cordatum, and O. pulchellum are rather larger, and may be grown in pots on the stage, but all require practically the same treatment as O. crispum.

Several charming Oncidiums are worthy of selection, as the Mexican O. tigrinum, and the Ecuadorean O. macranthum, the latter having a rambling inflorescence, which may either be tied along a wire, or trained round two or three neat sticks inserted in the pot. Its large bright yellow flowers are very handsome, but care should be taken not to let the plant weaken itself by over-flowering. O. Marshallianum and O. Forbesii are two handsome Brazilian species which should not be overlooked, while a similar remark applies to O. crispum and O. varicosum Rogersii. These Brazilian species may be kept rather drier when at rest, and should be kept in the warmest part of the house. O. incurvum bears a large branching inflorescence of white and purple flowers. O. cheirophorum with bright yellow and O. ornithorrhynchum with purple flowers are dwarfer species, and succeed best in hanging pans like Odontoglossum Rossii.

A really brilliant Cool house Orchid which should be included in every collection is Sophronitis grandiflora, which succeeds well in hanging pans in the usual compost, and flowers freely during the winter months. It should be kept in the warmest corner of the house, and always be kept moist, and shaded from bright sunshine. Lælia pumila and L. Dayana will succeed under similar conditions, and are almost the only other species of the group that will succeed with Odontoglossums. Very little water is required during the winter, but the compost should be kept just moist.

Epidendrum vitellinum is a Mexican species, having brilliant cinnabar-orange flowers, which requires cool treatment, as it comes from a high altitude. It succeeds well in hanging pans, in the coolest part of the house, and should be potted about March, and encouraged to grow freely, for the spikes soon begin to push, and the flowers appear during the early summer. During winter it should be kept rather dry, as the leaves are liable to spot at this season.

No Cool house collection is complete without a few Masdevallias, and among the best must be mentioned M. Veitchiana, and the varieties of M. coccinea. M. ignea and M. Davisii may also be included. They require very similar treatment to Odontoglossums, but need very careful watering during winter, as having no pseudobulbs they suffer if kept too dry, while over-watering may cause them to lose their leaves.

Anguloa Clowesii is another remarkable Orchid that may be successfully

grown in a cool house, and its large yellow cup-shaped flowers are very handsome. It is a terrestrial species, and likes a rather heavier compost than the epiphytic ones previously mentioned, so that the addition of a little fibrous yellow loam to the compost is beneficial. It should be repotted early in March, as soon as the flower buds begin to push, and when growth is active it likes a good supply of water, but after the pseudobulb is completed, a good rest, with the soil kept just moist only. It should be placed in as warm a position as possible during the winter. The other species of Anguloa require identical treatment.

Cœlogyne cristata is a handsome species which should be in every collection, as it is very easily grown, and produces a profusion of its beautiful white flowers in the spring. In the typical form the disc of the lip is deep yellow, and pale yellow in the variety Lemoniana, while in the variety alba the whole flower is of the purest white. It does best in pans or shallow pots, in a mixture of fibrous peat and sphagnum moss, with ample drainage, as it likes plenty of water during the growing season. When at rest during the winter the compost should be kept just moist, and until the flower-spikes appear, when the supply should be gradually increased. If the compost is in good condition the addition of a little fresh material among the roots will often serve instead of repotting, as it should not be pulled about more than necessary, and a little very weak liquid manure applied occasionally during the growing season is beneficial.

Old-World species suitable for the Cool house are not numerous, as the majority of them like a rather warmer temperature during the winter than is beneficial to the Odontoglossums and their allies, but if the house contains a partition, and the piping is arranged so that one end can be kept a few degrees warmer than the other, many more species can be grown successfully. If the house runs north and south the warmer division should be at the south end, so as to get the warming influence of the sun's rays as much as possible. During the summer no fire-heat will be required in either division, excepting a spell of cold weather intervenes, and the temperatures will be regulated by means of the shading, ventilation, and damping down, the chief difficulty during hot weather being to keep the cool division cool enough. The arrangement mentioned will greatly assist the grower in providing that slightly warmer position which a few otherwise cool Orchids seem to require for their perfect development. A few of these may now be mentioned.

Vanda Kimballiana is a charming Burmese species, with terete leaves and racemes of white and purple flowers, which are produced during the autumn. It succeeds in a hanging basket, in a compost consisting of sphagnum moss with a little fibrous peat, which should be kept just moist during the winter. Dendrobium Jamesianum also succeeds in hanging

baskets or pans in such a compost, with abundance of water during the growing season, and a very moderate supply during the winter. It produces trusses of large white flowers, with an orange-yellow blotch on the disc. Lælio harpophylla is a brilliant vermillion-coloured species which flowers from February to April, and succeeds well in pots under the usual treatment; as do also Maxillaria grandiflora, with one or two others. The Pleiones and Dendrobium Falconeri may also be included, but both require somewhat special treatment, and that of the Dendrobium was detailed at page 215 of a recent issue. A few other species might be mentioned, but the preceding are the most popular kinds.

We shall be pleased to hear the experience or difficulties of others with the foregoing or other kinds which they find suitable for the Cool house, or indeed on the subject generally.

ORCHID GROWING AT THE ANTIPODES.

WE have just received a very interesting letter from an esteemed correspondent in Australia, and our readers will doubtless like to hear something of the progress of Orchidology in that distant region. A previous letter appeared in our ninth volume (pp. 200, 201), accompanied by a figure of Lælia crispa, reproduced from a photograph received at the same time. Writing from Hamilton, Victoria, Mr. Poole remarks :—

"Since sending you the photograph of Lælia crispa I have changed my place of residence from Berwick. I have brought my Orchids with me, and am sending this mail a photo of Oncidium crispum grandiflorum, which I thought was very good. I got a First-class Award of Merit for it at the R.H.S. in Melbourne in June, 1904, and think you may be interested in it from so far away. My collection has done well. Cattleyas, Cypripediums, Oncidiums, Odontoglossums, and a number of others do well here. I have flowered a beautiful Cattleya Schrœderæ, having pure white sepals and petals, and the lip with a beautiful orange throat; also C. Mendelii with white sepals and petals flushed with lilac and marbled all over with a deeper shade of the same colour, and a very fine blotch on the lip. A lovely C. labiata had very pale-rose sepals and petals, and a lemon-yellow throat to the lip, with no blotch on the front lobe, but instead five radiating bright magenta lines. C. intermedia was very beautiful, with the colours reversed, that is, the sepals and petals fine lilac-rose, and the lip lemon-yellow with one small deep magenta blotch in the centre. The flower is nicely perfumed, and the lower half of each leaf is serrated. C. Mossiæ had a flower 9½ inches across as it stood, about 11 inches when stretched out, and was the richest in colour I have seen. Oncidium Marshallianum had 94 flowers on one spike.

"I have tried oak leaves and mould, but so far I cannot say I like them. The Colonial pots are not much good; they get a lot of slime, &c., on them almost at once (is there any cure for that?), which seems to send the compost sour quickly. Cattleya Lueddemanniana does no good with me. What is the best way to do it? Also Dendrobium tortile? Is Orchid seed to be procured? and, if so, where? If a small quantity would live the voyage, I would like some one to send me a few to try. I raised a fine Cattleya seedling to 2½ years old from the above Mossiæ-Mendelii cross, but it died in coming here. However, I will try again. These remarks will show you that the collection is doing well, and I might mention that I have induced five other gentlemen to take the hobby up, too. Wishing your journal prosperity, which I have at all times found of great use to me.

"Hamilton, Victoria. "R. M. POOLE."

The photograph sent represents a good plant of Oncidium crispum growing in an eleven-inch basket, and bearing a much-branched inflorescence of about 48 or 50 flowers, but if reduced to the size suitable for these pages we fear the flowers would be too small to be effective. The inflorescence measures 3 feet long by 2½ feet broad, and the plant is evidently very healthy. We shall be glad to receive any suggestions on the questions raised, and if any reader can spare a pinch of Orchid seed for Mr. Poole we shall be pleased to forward it to him for trial. It may be remembered that he had to import his Cattleyas, and they appear to have done very well. The hybrid seedling mentioned from Cattleya Mossiæ and C. Mendelii is very interesting, because it was stated at page 222 of a recent issue, on the authority of an expert hybridist, that the two could not be intercrossed. We were rather surprised at the time, but the fact that no hybrid has been recorded between two of our most popular species, which, moreover, are often in flower together, seemed to favour the statement. We should be glad to hear of any other attempts to hybridise these two species that have been made.

ORCHIDS IN SEASON.

WE are now in the midst of the "dull season" for Orchids, though summer-flowering hybrids have become so numerous that the term is less applicable than formerly. Several beautiful flowers are sent from the collection of Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins). First may be mentioned an eight-flowered inflorescence of the handsome natural hybrid Cattleya × Patrocinii, in which the characters of C. Leopoldi and C. Loddigesii are very effectively combined. The sepals and petals are bright purple, bearing numerous blackish purple spots, and the lip has retained much of the C. Loddigesii character, while in habit the plant most

resembles C. Leopoldi. It is rather rare at present. C. Eldorado crocata is a handsome light blush variety having a large intense orange blotch in the throat of the lip, while C. E. magnifica is a larger form, having the front of the lip purple. The latter is from a recent importation. Paphiopedilum × vexill-Io is a very prettly little hybrid, of which Mr. Wellesley remarks:—"It is to me very remarkable, for, although but a secondary hybrid from Fairrieanum, it more closely resembles that almost extinct species than any of the primary hybrids. I saw Fairrieanum in flower at the Luxembourg last year." The increased resemblance mentioned appears to us to be due to the fact that the shape of P. × vexillarium has been largely retained, while the colour of P. barbatum is to a great extent lost, except at the margin of the petals and dorsal sepal, while the veining of the flower is strengthened by the influence of P. × Io. The petals are spotted as in the latter, but the spots are only half as large. The petals, however, are much less falcate than in P. Fairrieanum and the dorsal sepal not reticulated in the same way. P. × Wiertzianum and Bleu's variety of the same are both good, but the latter is the finer of the two, and has rather smaller and more numerous spots on the petals. The dorsal sepal is 2½ inches broad, and closely lined with purple brown. P. × Hiero is a fine hybrid derived from P. Lawrenceanum and P. Chamberlainianum, and Mr. Wellesley thinks it one of the most pleasing hybrids derived from the latter. It most resembles this parent, but is larger, and the dorsal sepal is more strongly veined with brown, while the petals are well spotted. A fine flower of Lælia × Iona ignescens is also sent, having bright rose-purple sepals and petals, and the lip of the most intense dark purple, one of the richest forms of this hybrid which we have yet seen. All the flowers sent show evidence of excellent culture.

Several beautiful Orchids are sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, by Mr. Smith. Cattleya Warscewiczii, Cambridge Lodge var., is a large and richly-coloured form which has produced a four-flowered inflorescence, and made an exceptionally fine growth. Vanda Roxburghii is a fine old species, represented by two racemes from a fine plant carrying sixteen pairs of leaves. There are also inflorescences of the rare Miltonia Schrœderiana and the late flowering M. vexillaria suberba, the latter being a rather small geographical form of the species, having a dark crimson blotch at the base of the lip, analagous to that seen in M. v. Leopoldi. Lælio-cattleya × Ingramii Cambridge Lodge var. is a richly-coloured form, and the hybrid known as L.-c. × Bowringiano-Clive is a pretty light purple hybrid, with a light yellow throat to the lip, and a lilac apex, the intervening area being rich purple. There is also a fine branching inflorescence of a yellow Oncidium, allied to O. Schlimii, whose identity is somewhat uncertain at present.

A handsome water-colour painting of Paphiopedilum × Rolfei (P. bellatulum × Rothschildianum) is sent by Mr. Charles Storer, of Providence, R.I., U.S.A., who states that it bloomed in the collection of J. E. Rothwell, Esq., in July of the present year. The scape bears two flowers, and the dorsal sepal is more heavily veined than in the form figured at page 305 of our ninth volume, while the petals are also shorter and broader. Mr. Storer, who has been painting and studying Orchids for twenty-five years, remarks that he thought we should like to hear of its flowering in America, and also to see a painting, but he does not state whether the plant was raised there, or whether it is one from Mr. Appleton's original batch of seedlings.

VANILLA HUMBLOTII.

Indian Gardening has fallen into a curious double mistake with regard to this handsome species, which should be corrected. The issue for August 6th (page 552), contains the following paragraph :—

"THE SEYCHELLE VANILLA.—Mr. Rolfe, in the *Orchid Review* for July, 1904, has an interesting article on *Vanilla Humblotii*, which has just flowered in the collection of Sir Trevor Lawrence, and which, Mr. Rolfe says, is a native of the Seychelle Islands. This is probably the species cultivated in those islands which yields the Vanilla beans of commerce which come from there."

It is curious how the mistake arose, for the article is reproduced in full, and states that Vanilla Humblotii was originally described from the Great Comoro Islands, and that a plant which was afterwards sent from Madagascar by M. Hamelin, under the name of Vanilla Phalænopsis, Rchb. f., proved on flowering to be different from that Seychelle Islands species, and was believed to be identical with the one from the Comoro Islands. The further inference that the species described was the one which yields the "Vanilla beans" of commerce is equally curious, for the commercial plant is well known to be Vanilla planifolia, a native of Mexico and Central America, which is cultivated in various parts of the world and has become an important industry in the Seychelle Islands. V. planifolia is very different from the two species above mentioned, which, it was pointed out, belonged to the leafless section of the genus,and none of the latter are of commercial importance. An account of the Vanillas of commerce was given at pp. 308-311 of our third volume, and it may be added that none of them belong to the leafless section of the genus. Several species of the genus are still very imperfectly known, and among them are two or three recorded as having aromatic fruits, whose history it is desirable to clear up, if the necessary materials can be obtained.

LÆLIA BOOTHIANA.

THE annexed figure represents a well-known but not very commonly cultivated plant, which has the character of being a rather shy bloomer, namely Lælia Boothiana. The photograph shows a five-flowered inflorescence, and is sent by Dr. A. W. Hoisholt, Stockton, California. Dr. Hoisholt writes :—" I had had the plant about ten years without being able to make it flower, and had been growing it in a house with Phalœnopsis and Australian Dendrobiums. Last year I moved a piece of the original plant, which during the past ten years had increased from one lead to fourteen

Fig. 40. LÆLIA BOOTHIANA.

leads, to the Cattleya house, where the plant received more light (southern exposure) and ventilation. The result this spring was a spike of five flowers from the main lead, and one of three from a side lead, this having no sheath. The bulb with the larger spike measured 2 1-8 inches across its broadest diameter, and the length of the leaf and bulb was 25 inches. It has been grown in fern-root fibre."

The species has been known for upwards of half a century, having been originally described and figured by Dr. Lindley in 1847, under the

name of Cattleya lobata (*Gard. Chron.*, 1848, p. 403), from a plant which flowered with Messrs. Loddiges in the previous year, and which they had received from Brazil. In 1854 Reichenbach described a Lælia grandis var. purpurea, from a plant which flowered in the collection of Messrs. Booth & Sons, of Hamburg (*Bonplandia*, 1854, p. 89), and in the following year, being convinced of its distinctness, he renamed it Lælia Boothiana, in compliment to its introducor (*Allg. Gartenz.*, 1855, p. 322). He afterwards discovered that Lindley's Cattleya lobata was identical, and figured the species in his *Xenia Orchidacea* (i, p. 218, t. 91), when he stated that it had been "long years" in Messrs. Booth's establishment, and had acquired the name of "the Cattleya that never flowers." The species has also another name, having been described and figured by Carriére as Lælia Rivieri (*Rev. Hort.* 1874, p. 331). This is said to have been sent with others from New Grenada to M. Rougier-Chauvière, of Paris, with whom it flowered in May, 1874. The locality, however, is believed to be erroneous.

Messrs. Veitch, who call the plant Lælia lobata, state that they know of only one station for it "on the coast of Rio de Janeiro, where it grows high up on a bare rock that is washed by the ocean below, and where it is fully exposed to the sun from morning till night, a fact of which cultivators should take note, the more especially as the species, although growing vigorously under the usual cultural treatment of Cattleyas and Lælias, often fails to flower" (*Man. Orch.*, ii., p. 74).

That it is a shy bloomer seems to be the experience of nearly everyone who has grown it. Mr. Day remarked:—"I have had this plant four years, and it has not bloomed until now, but there are seven spikes this year. It seems to bloom when the growths get to the edge of the pot. In 1863, after flowering, I repotted this plant, and it never bloomed again until this summer, when the growths had reached the edge again." We remember another record somewhere that the plant flowers most freely when pot-bound, and from the facts mentioned we should infer that the plant should be placed in a light position, and be disturbed as little as possible at the root. The flowering season is generally May and June.

"A BIG CALCEOLARIA."—Prof. Boulger's Lecture on the "Preservation of Wild Flowers" at the last R.H.S. meeting, and the mention of Cypripedium Calceolus as one of the handsome British species which has been nearly exterminated, reminds us of a rather good story which we have heard, and which is stated to be perfectly authentic. The plant formerly grew in Yorkshire, if it does not still exist there, and some native, whose botanical knowledge was evidently not extensive, found a clump of it, and dug it up and sold it to some local gardener or nurseryman for half-a-crown as "a big Calceolaria."

CULTURE OF DENDROBIUM VICTORIA-REGINA.

AT page 132 of our May issue we alluded to a fine plant of this beautiful species, which was seen growing on a raft suspended from the roof in the Odontoglossum house at Burford, its beautiful violet-blue flowers being very striking. It appears from a note in the *Gardeners' Chronicle* (1904, i. p. 228) that such a situation is the one in which it succeeds best. When originally described in 1897 it was said to grow at 6,000 feet elevation, which statement, it is remarked, "ought to have indicated that it was not a hot-house plant. Nevertheless, the plant was generally grown with other Dendrobiums, and the result was not often satisfactory. A few cultivators took the hint and secured better results, but the best example of its culture in quantity which we have seen is in the collection of Elijah Ashworth, Esq. (gr. Mr. Holbrook), Harefield Hall, Wilmslow, where a goodly number of sturdy plants are growing suspended from the roof of the cool Odontoglossum house, where they have been increasing in strength for some years. The pseudobulbs branch and produce aërial roots, and the flowers now on them are larger, and the intensity of the dark blue of the outer halves of the segments is more intense than any we have seen before. The plants are dwarf and bushy, and bear shorter pseudo-bulbs than they did when imported. It is a very beautiful and remarkable plant." Dendrobiums suitable for the Cool house are not numerous, and it is satisfactory to find that they include this beautiful plant, whose flowers are almost if not quite unique in the genus for their remarkable violet-blue colour.

ANGLESEY CASTLE SALES.

THE balance of the contents of the Marquis of Anglesey's garden were disposed of recently, and the total proceeds were under £50. A round dozen would probably cover the number of purchasers. The only feature of even ordinary interest in the sale was a collection of Orchids, and these went at a literally ruinous sacrifice. For example, a lot of fifteen Oncidiums were knocked down to Mr. Griffin, of Haydock, for 5s. It was afterwards said that £5 would not have bought them in the open market. Mr. Griffin's was the only bid for this lot. The same purchaser secured eight *Zygopetalums* for 5s., and a group of six Maxillaria for 5s. A pot of Cattleya and two pots of Lælia were sold for 5s. A hanging box of Stanhopeas and a pot of the same went for 4s. Three pots of Lycaste realised 3s. A pot of Cœlogyne and another of Cymbidium went for 5s., twenty-four Cypripedium for 2s., and eighty Calanthe for 9s. A keen fight between two bidders resulted in Mr. Speed, of Bangor, securing twelve large Dendrobiums for 46s.—*Journal of Horticulture.*

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

A meeting of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on August 9th, when several excellent groups were staged, including one magnificent group of Disa grandiflora from Messrs. Cripps and Son. The awards granted consisted of four medals and one Botanical Certificate.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent a pretty little group, consisting of Cattleya × Patrocinii, Westfield variety, a richly-coloured variety of fine C. Eldorado crocata, Cypripedium × Wiertzianum, and Bleu's variety of the same, having a larger, more closely spotted flower, and C. × Hiero, Edenside var. (Lawrenceanum × Chamberlainianum), a very pretty hybrid, having a yellowish green dorsal sepal lined with dark purple, greenish ciliate petals closely spotted with blackish purple, and a rosy lip margined with yellow at the upper edge.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent an inflorescence of the remarkable Bulbophyllum Hamelinii, to which a Botanical Certificate was given. The species is a native of Madagascar, and was fully described at page 284 of our tenth volume, when it flowered for the first time in Europe in the same collection.

Messrs. Sander and Sons, St. Albans, staged a very fine group, which gained a Silver Flora Medal, and was remarkable for the presence of a noble specimen of Arachnanthe Lowii, bearing four fine racemes, the two or three basal flowers on each raceme being, as usual, different from the others in shape and colour, the cause of which, we believe, has not yet been satisfactorily explained. Other interesting things were some fine forms of Lælio-cattleya × callistoglossa and L.-c. × bletchleyensis, the variety Non Plus Ultra of the latter having brilliant rose-purple sepals and petals, and a rich claret-crimson lip; three specimens of Angræcum Eichlerianum, Cattleya × Patrocinii-aurea, having pretty rose-coloured sepals and petals, and a yellowish centre to the lip; Cypripedium × Williamsonianum (× Leeanum × Rothschildianum), most resembling the latter in shape, and having the dorsal sepal dotted with purple lines on a cream ground, becoming green at the base, the petals yellowish spotted with purple, and the lip brownish rose; C. × Annie Measures, C. × Rothschildiano-villosum, C. × Flambeau, C. × callo-Rothschildianum, C. × Harveyanum, C. × A. de Lairesse, bearing three spikes and a dozen fine flowers, C. × tonso-Rothschildianum, C. × Transvaal, &c.

Messrs. Charlesworth and Co., Heaton, Bradford, also received a Silver Floral Medal for a fine group, including in the centre a fine specimen of Oncidium incurvum, some good examples of Vanda cœrulea, one bearing

four racemes, two fine Brassocattleya × Madame Charles Maron, good forms of Cattleya × Lord Rothschild, C. × Iris, C. × Germania, C. × Niobe, C. Mary Gratrix, Brassia Lawrenceana longissima, Cycnoches chlorochilon, Miltonia × Bleuana grandiflora, M. Schrœderiana, M. Regnellii citrina, Cypripedium × Io magnificum, the handsome C. × Princess (× Mons. Coffinet × Fairrieanum), &c.

Messrs. James Veitch and Sons, Chelsea, received a Silver Banksian Medal for a bright group, containing good forms of Lælia-cattleya × callistoglossa, L.-c. × Clonia, L.-c. × Epicasta, L.-c. × Remula, Cattleya × Atalanta, C. × Niobe, &c.

Messrs. Cripps and Sons, Tunbridge Wells, showed a brilliant group of Disa grandiflora, consisting of about a hundred well-grown plants. A Silver Banksian Medal was deservedly awarded.

Messrs. Hugh Low and Co., Bush Hill Park, staged a small but showy group, consisting of a fine specimen of Cypripedium × grande, with good examples of Cattleya Loddigisii, C. Warscewiczii, C. Grossii, C. granulosa, and C. bicolor.

We regret that an error crept into our report of the last meeting. It was stated at page 246 that a Silver Banksian Medal was awarded to the group exhibited by H. T. Pitt, Esq., which, we learn, was not the case.

AT the meeting held on August 23rd Orchids were very scantily represented, consisting of one small group and a few individual specimens.

H. S. Goodson, Esq., West Hill, Putney (gr. Mr. Day), received a Silver Banksian Medal for a small group, containing several interesting things, and among them a pretty hybrid from Cattleya Bowringiana and Lælio-cattleya × Ingramii, which must be considered a form of L.-c. × Robsonæ. The plant was dwarf, and the inflorescence bore two richly coloured flowers of intermediate shape. Another Lælio-cattleya was marked as of unknown parentage, but we believe it to be a form of L.-c. × Massangeana (L. tenebrosa × C. Schilleriana), and we noted that the five preceding pseudobulbs had all flowered. The flowers are fairly intermediate in shape, but closely resembling the Lælia in colour, while the habit is more like the Cattleya parent. We noted also Cattleya Leopoldi, four plants of C. Loddigesii, and C. Harrisoniana var. H. S. Goodson, bearing a six-flowered inflorescence, and the flowers of good shape, with some purple spots on the sepals and petals which seemed rather unusual. Lycaste leucantha was bearing three good flowers, and we noted also Oncidium crispum, Epidendrum prismatocarpum, and Odontoglossum crispum, together with Cypripedium Curtisii, C. Dayanum, C. Mastersianum, C. Lawrenceanum, C. Chamberlainianum, C. × œnanthum superbum, C. × superciliare, C. × Gowerianum, and C. × Harrisonianum superbum.

Captain Holford, Westonbirt, Tetbury (gr. Mr. Alexander), sent the handsome Cypripedium × Milo Westonbirt var., and Cattleya × Germania superba, the latter bearing a fine inflorescence of five flowers, in which the characters of C. granulosa and C. × Hardyana are combined.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Smith), sent an interesting hybrid Masdevallia, called M. × Veitchii-fragrans (Veitchiana × fragrans), having a light yellow flower fairly intermediate in shape, and light yellow in colour, with numerous dusky hairs, showing very little of the violet iridescence of the seed parent.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Cypripedium × Bella (C. × vexillarium × philippinense), most like the latter in shape, but having shorter and broader drooping petals, of a lurid purple colour, and a broader dorsal sepal, closely veined with purple-brown.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), exhibited Lælio-cattleya × Admiral Togo (C. Schilleriana × L.-c. × elegans Turneri), having a four-flowered raceme, the sepals and petals light purple, and the strongly three-lobed lip rich crimson purple, with darker veins on the front lobe of the lip, and some yellow mottling on the disc. The pseudobulbs were intermediate in size, and three of them were monophyllous and two diphyllous.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING was held at the Coal Exchange, Manchester, on August 11th, when the exhibits were not numerous, but included one good group which gained a Silver Medal, while three First-class Certificates were also included in the Awards.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Chapman), sent Cattleya × Atalanta, Oakwood var., a very fine form, and Odontoglossum crispum Mundyanum, one of the older richly blotched varieties, a First-class Certificate being given to each, while the Odontoglossum received the additional award of a Silver Medal, in recognition of its excellence.

G. W. Law Schofield, Esq., New Hall Hey, Rawtenstall (gr. Mr. Schill), received a First-class Certificate for the handsome Cypripedium × Sanderiano-superbiens, in which the characters of the parent species are very effectively combined.

T. Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), exhibited the fine Cypripedium × calloso-Lawrenceanum, which received an Award of Merit.

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), exhibited a hybrid Cypripedium.

Philip Smith, Esq., Sale (gr. Mr. Kitchen), exhibited Cypripedium × May Proctor, a pretty hybrid derived from C. Charlesworthii × C. Curtisii.

Messrs. Charlesworth and Co., Heaton, Bradford, staged a showy group of hybrids, to which a Silver Medal was awarded, the more noteworthy exhibits including a handsome Lælio-cattleya × callistoglossa, L.-c. × luminosa, Cattleya × Germania, C. × Iris, C. × Lord Rothschild, C. × Mary Gratrix, C. × Hyades, Cypripedium × Io magnificum, &c.

THE HYBRIDIST.

LÆLIA × GWENNIE.—A two-flowered inflorescense of a pretty little hybrid, derived from Lælia Jongheana ♀ and L. Cowani ♂, is sent from the collection of R. G. Thwaites, Esq., Chessington, Streatham, by Mr. Black. It is from a small plant now flowering for the first time, when a little over three years old, but Mr. Black states that plants were flowered at the beginning of the year, when only two years and six months from seed sowing. The flowers most resemble the pollen parent in general character, and measure $3\frac{3}{4}$ inches across. The sepals and petals are light reddish buff in colour, and the lip orange yellow, with the front and side lobes crisped, and the disc showing just a trace of the characteristic Jongheana heels. So far as the flower is concerned the influence of the seed parent is not very obvious, but the somewhat enlarged size and reddish tint in the sepals and petals can be traced to this origin. Mr. Black remarks that the hybrid will no doubt improve very much when stronger, and when grown cooler than as yet attempted, for neither of the parents do well in heat, L. Jongheana in particular producing a flower of very poor substance if grown at all hot. The seedling was mentioned, among other interesting ones, at page 259 of our last volume.

LÆLIO-CATTLEYA × ORESTES.—A pretty little hybrid, now flowering for the first time, has just been sent by Messrs. Cappe, of Vesinet, France. It was obtained from Lælio-cattleya × warnhamensis crossed with the pollen of Cattleya intermedia, and the seeds were sown in April, 1901. The plant, however, is said to be still very small, and the inflorescence bore only a single flower, when at least four to six may be expected later on. The pollen masses are said to have been four in number, as in Cattleya. The flower bears a general resemblance to Lælio-cattleya × Amelia (C. intermedia × L. cinnabarina), but instead of half cinnabarina blood, as in that, the present one has one quarter each of L. cinnabarina and Cattleya Trianæ. The flower sent is past its best, but has light buff-yellow sepals and petals, whitish side lobes to the lip, and a deep purple front lobe. We shall hope to see it again when the plant becomes stronger.

BULBOPHYLLUM VIRESCENS.

THIS is a remarkable Malayan Bulbophyllum which was described by Mr. J. J. Smith, of the Buitenzorg Botanic Garden, about four years ago (*Bull. Inst. Bot. Buitenz.*, vii., p. 3), and afterwards figured (*Ic. Bogor.*, ii., p. 99, t. 119, fig. A). It is said to be a native of Amboina, and was collected on Mt. Tuna, at 800 métres altitude, by Mr. Smith. It is interesting to note that a Bulbophyllum, which was imported several years ago by Messrs. Low and Co., from some locality near to New Guinea, and which has since grown vigorously and freely, has now bloomed in the establishment, and proves to be identical. A dried specimen, which was collected in Java by Lobb many years ago (n. 126 of his collection), and doubtfully referred to B. Pahudii, Rchb. f., is also apparently the same species. Messrs. Low thought their plant would prove to be B. Ericssoni, Kränzl., until it bloomed, but it proves to have quite unspotted sepals and other differences, while both leaves and pseudo-bulbs are larger. The pseudobulb sent to Kew is linear-oblong in shape, compressed, and $5\frac{1}{2}$ inches long by eight lines broad; and the leaf is elliptical-ovate, acute, and eight inches long by $3\frac{3}{4}$ inches broad, with a petiole $1\frac{1}{2}$ inches long. Messrs. Low describe the scape as erect, about nine inches high, bearing at the summit an umbel of nine somewhat pendulous flowers. The flower sent is very large, the dorsal sepal measuring six and the lateral eight lines broad at the base, then gradually tapering upwards into slender tails, the total length of the dorsal sepal being $3\frac{3}{4}$ and of the lateral over $4\frac{1}{4}$ inches. The petals are similar in shape but attain a length of scarcely $1\frac{1}{2}$ inches. The colour may be described as very pale green with darker green veins. The lip is five lines broad at the base, very fleshy, then recurved and attenuate to an acute point. The face is purple to beyond the middle, then bright yellow, and the base of the column foot is also bright purple. The column is very broad, two lines long, and the teeth short, slender, and slightly curved. At the junction of the column with its foot is an auriculate fleshy body on either side, and an additional small rounded tubercle at the base of the column teeth. The Javan example is very similar, but has a rather shorter scape of ten flowers, and a rather broader leaf. It is a remarkable species, and the only two near allies are B. Pahudii, Rchb. f., a native of Java, of which a good figure is given in *Flore des Serres* (t. 2268), and B. Ericssoni, Kranzl, which has also been figured (*Gard. Chron.*, 1897, i. p. 61, fig. 16). The latter has been not inaptly compared with a Chimeroid Masdevallia, and the dark purple blotches on the sepals increase the resemblance. B. Pahudii has rather smaller flowers of similar shape, and more purple in colour. Whether it is now in cultivation is uncertain.

R. A. ROLFE.

LÆLIA JONGHEANA.

WHEN the interesting Lælia Jongheana was re-introduced five years ago an opinion was expressed that it would prove a valuable acquisition for hybridisation purposes, for its dwarf habit promised to make it as useful as Lælia pumila, while the large flower and orange-yellow throat were distinctive characteristics which should give it an increased value (*O.R.*, viii., p. 65). How far the prophecy will prove correct remains to be seen, but a first hybrid has now made its appearance—namely Lælia

FIG. 41. LÆLIA JONGHEANA.

× Gwennie, described on page 271. Prior to its rediscovery it had been almost inaccessible for this purpose, and Lælio-cattleya × Baroness Schröder was the solitary hybrid from it The annexed figure represents a plant of L. Jongheana, which flowered in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, in 1900, shortly after its re-introduction, and shows how relatively large the flowers are as compared with the rest of the plant, being in fact six inches in diameter. A photograph

recently received from the same collection shows a well-established specimen, bearing nine flowers and a single capsule, and forms a charming little picture. The scapes seem to be mostly twin-flowered. Like its allies, Lælia pumila and L. Dayana, it is very easily grown under moderately cool treatment, and is very effective owing to the large light purple flowers and orange-yellow throat and keels to the lip. It is a spring-flowering species, and varies somewhat in colour, the most richly-coloured form which we have seen being the variety Kromeri, which received a First-class Certificate from the R.H.S. in March, 1901, when exhibited by Mr. Edward Kromer, Bandon Hill, Croydon. It had bright rose-purple flowers, and a darker band of the same colour on the lip, and thus approached the form figured in the *Botanical Magazine* (t. 6038). At the other end of the scale comes the variety Ashworthiæ, from the collection of E. Ashworth, Esq., Harefield Hall, Wilmslow, which also received a First-class Certificate from the R.H.S. in the following April. It had silvery white flowers, with the usual orange-coloured keels on the disc. The history of the species was given at page 278 of our fourth volume, and its re-introduction dates from 1898, when an importation was sold by Messrs. Sander as Lælia species. Its identity was first recognised when one of the plants flowered with Mr. A. J. Keeling, in the spring of the following year (*O.R.*, vii., p. 173). The plant here figured is out of the same importation, and was only semi-established when the photograph was taken.

CALENDAR OF OPERATIONS FOR SEPTEMBER.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

IN the cool Orchid house no warmth from the hot water pipes should be required during this month. Ventilate freely both night and day, and keep the temperature as low as possible; at the same time keep sufficient moisture in the atmosphere, by damping down when necessary during the day. The cool night air is a great invigorator, and the plants enjoy it. If healthy, robust growth is desired, fresh air, and plenty of it must be given. As the month advances, no doubt an increased amount of artificial heat will be necessary for the warmer houses, but this must be given with care and discretion, or much harm may be the result from too much fire heat. So long as the weather remains favourable, summer temperatures should prevail in all the warm divisions, though a slight decrease in those given for the night, should occur as the month draws to a close. Operations of daily occurrence that have been carried out during the summer should now be modified to suit the conditions of the season, each day having a less amount of light and direct sunshine, shading will consequently not be required on

the houses so early in the morning, and likewise should be removed earlier in the afternoon.

This is, so far as Orchid flowers are concerned, a rather dull season. To an enthusiastic grower, however, flowers alone are not the only pleasing feature. To my mind the sight of the plants growing so freely at this season fully compensates for the lack of bloom. But although flowers are scarce, there are still a few to be had. The genus Oncidium is sure to be represented no matter what the time of year. One very pretty and useful species flowering now is O. obryzatam, its long and many-branched spikes carrying a large quantity of its pretty golden yellow flowers, spotted with light brown. It is best removed to the Intermediate house during winter. Another exquisite little species is also in bloom in the form of O. Gardneri. It is not one lending itself very readily to cultivation, hence its scarcity. It will grow best in the Cool house, except, perhaps, for a short time during winter, when it mostly happens that it is forming new growth, necessitating, of course, its removal to the Intermediate house. O. spilopterum (Saint-legerianum) is another species now in bloom, the large yellow labellum and violet coloured crest making a fine contrast. It is of easy culture, growing well in the Cool house in either pots or pans and suspended. In this department a good many spikes will now be making their appearance, which will bloom later on in the autumn and winter months. Amongst them may be noted such fine things as Oncidium crispum, O. Forbesii, O. ornithorhynchum, O. tigrinum, and O. varicosum; also Odontoglossum Edwardi and O. ramossissimum; and these should be carefully guarded against injury from the various troublesome pests.

A commencement may be made to pot the Odontoglossum crispum, selecting only those plants whose growths are sufficiently advanced to warrant the early appearance of roots at the base of the new leads. The compost may consist of one-third each peat, oak leaves, and chopped sphagnum moss. Pot the plants moderately firm, and surface over with a layer of fresh chopped moss, clipping off to give a neat appearance. Do not deluge the plants with water, but keep the atmosphere moist and pure, a slight moistening of the surface will suffice after repotting, and at this season of the year the plants may be dewed overhead, thus moistening the surface of the moss and obviating the chance of water being applied too soon after repotting.

The Pleiones have now completed their growth for the season, and the leaves, which are deciduous, will soon fall away. Bearing this in mind much less water should be given, though, until the flowers appear, the compost should not become dust dry. There is with these practically no resting period, for almost before the old leaves have disappeared the young growths, in which the flower scapes come up, make their appearance, hence growth

in some shape or form is always in progress. P. humilis is only about half-way through its season's work, and will yet require a fair supply of water at the root.

In the Mexican house very little assistance from the hot water pipes will be required this month, unless the nights, or even the days, be unduly cold, when it is certainly by far the best and wisest plan to have a little warmth in the pipes, so that the ventilators need not be entirely closed. Nothing is more harmful to Mexican Orchids than a stagnant atmosphere, and if a house is shut up close without fire heat it is sure to become so. It is better, then, to have slight warmth in the pipes with ventilation, and the thermometer ranging at night about 60°, a little more or less. In this house flower spikes of Lælia anceps, L. Gouldiana, and others of the same type will now be showing in quantities. Let them have exactly the same kind of treatment in all respects as previously advised, viz., watering them when dry only, keeping them near the light, and giving them the full sun, and an abundance of air in favourable weather. It is best, perhaps, now to discontinue syringing overhead at night, doing it only first thing in the morning, otherwise a few spikes may be lost through damping.

The Cattleya house will also require a little assistance from the hot water pipes when the weather is cold, maintaining a night temperature of from 60° to 65°, with a circulation of air. Let the plants now receive a larger amount of light, by reducing permanent shading, and by using the roller blinds only when the sun is very bright. Twice daily will be sufficient for damping down the paths, between the pots, etc., doing it first thing in the morning, and again about three or four o'clock in the afternoon. Many of the inmates of this department will by this time have almost completed their new growth; such as the earliest of the labiata section of Cattleyas, like C. Trianæ and C. Schrœderœ, whilst other later kinds, such as C. Mossiæ and C. Mendelii, together with Lælia purpurata, and some few others, have still a good deal to do. If it is possible, it is best to place the former at the coolest and airiest part of the house, and the latter at the warmest part. Of course, those kinds having finished their growth will need less water at the root than others, but they should not at present be kept too dry.

Dendrobiums are also now rapidly finishing up new pseudobulbs. It is most essential that these Orchids have complete rest during autumn and winter, in a much cooler temperature than that in which they make their growth. Upon this much will depend in the successful cultivation of this most beautiful genus. The spring flowering kinds, such as D. Wardianum, D. crassinode, D. Falconeri, D. Devonianum, D. aureum, and D. nobile, with many other species and hybrids which flower only after resting, should, after completing their season's growth, be removed to a department offer-

ing similar conditions to the Mexican house, where they should remain through the winter months. Upon their removal the supply of water should be gradually lessened, and in a month or two's time, a very little water indeed will be found necessary to keep the plants quite plump and healthy.

Such evergreen species as Dendrobium thyrsiflorum, D. densiflorum, &c., should, if possible, be given even a cooler treatment than the Mexican house. A cool greenhouse, for instance, where the temperature sometimes falls as low as 40°, providing the root and the atmosphere is dry, suits them well. On the other hand there are a lot of Dendrobiums that will take harm if subjected to a low temperature at any time, even when at rest. The chief amongst these are D. Bensonæ, D. Lowii, D. macrophyllan, D. aggregatum, D. Dearii, D. Parishii, D. formosum, and all the D. Phalænopsis section. A temperature ranging from 60° to 65° is a most suitable one for them during the winter months. The magnificent D. Phalænopsis is now about to flower on this season's growth, everything having been favourable for the production of large and well-developed pseudobulbs, which will produce strong many-flowered scapes. A fair amount of water should be given these until the flowers are over, when the commencement of a long and complete rest should begin. The beautiful white flowering D. formosum giganteum is also producing its blooms on the early made bulbs, and should have similar treatment to that mentioned for the former; those not in such a forward state must, however, be given a more plentiful supply of water at the root.

DENDROBIUM BENSONÆ.

DENDROBIUM BENSONÆ is one of the most beautiful species in the genus, though often found difficult to cultivate satisfactorily for any length of

this season; yet this is the spot selected by Vanda cœrulescens, Dendrobium Bensonæ, and other Orchids. It is not until we get to a higher elevation that we come across Dendrobium crassinode, D. crystallinum, Vanda Denisoniana, D. binoculare, D. Farmeri (yellow variety), &c. The three last-named plants prefer more shady places than D. crystallinum and D. crassinode" (*Gard. Chron.*, 1870, p. 796). The beginning of February would be the resting season of the plant, and the conditions mentioned may have been exceptional, but they show the necessity of giving the plant a warm position when resting during the winter and keeping it pretty dry. Mr. James Cypher, one of our most successful growers, once remarked:—"I believe many or nearly all are lost by having too much water during winter or early spring, and even when the new growths are several inches long they should receive very little water." He also remarked:—"I have grown it for eight years, and at the end of that period had finer bulbs than when imported." Col. Benson estimates the average temperature at 80°F, and the rainfall at 90 inches per annum, the latter, however, chiefly falling in the rainy season, which, of course, is the period of active growth. The species should be wintered with D. Phalænopsis and the other New Guinea species.

NOVELTIES.

COCHLIODA BRASILIENSIS, ROLFE.—An interesting Brazilian species of Cochlioda, known for upwards of thirty years from a dried specimen collected near Rio de Janeiro by W. Longman in May, 1872, and now put into commerce by M. Binot. A plant imported by the latter has now flowered at Kew. It differs from all the other species in having greenish segments, but agrees in having the stalk of the lip completely adnate to the column and the blade reflexed, and, of course, in habit and other structural detail. It is much less showy than its allies, on account of its modest colour, but it is interesting as an outlying member of the genus, for the six species hitherto known are all natives of the Andes. The plant has the general habit of its allies, and the pseudobulbs are tufted and diphyllous, with lanceolate-oblong leaves 2½ to five inches long, and slender arching scapes five to ten inches long, simple or with a side branch, and bearing from six to thirteen flowers. The sepals and petals are spreading, five to eight lines long, somewhat revolute, and light green with a slight suffusion of olive brown. The lip is adnate to the column for nearly three lines, and the limb is three-lobed, with a pair of fleshy heels on the disc, and a mass of short yellow hairs in the throat. The colour is white, tinged with green on the front lobe, and with faint purple at the apex of the heels.—*Gard. Chron.*, 1904, ii., p. 141.

HABENARIA CANDIDA.

A PRETTY little white-flowered species of Habenaria has just flowered at Kew, which was sent with other Orchids from the Sierra Leone Botanic Station last year by Mr. J. P. Quinton. It proves to be identical with a specimen preserved in Lindley's Herbarium, and labelled "Habenaria candida, Sierra Leone, Loddiges," thus being regarded by the author as a new species, but the description apparently was not published, as it cannot be found. The sheet is not dated, but must be over half a century old, and may have been one of the plants sent from Sierra Leone by George Don. The species was published by Kränzlin, under Lindley's name, in 1893 (*Engl. Jahrb.*, xvi., p. 217), when the author added that it had also been gathered on Sugarloaf Mountain by Preuss. Durand and Schinz changed the name to H. leonensis, Kränzl. (*Conspect. Fl. Afr.*, v., p. 80), whether by accident or design is not quite clear, for they omit the name H. candida, but cite the volume and page where it is described. In any case they are the authors of the name H. leonensis, which is repudiated by Kränzlin (*Orch. Gen. et Sp.*, i., p. 907), on the ground that H. candida, Dalz., is synonymous with the earlier H. subpubens, Rich. The plants are about five or six inches high, bearing four or five oblong lanceolate acuminate leaves, 3 to 6 inches long by 7 to 10 lines broad, and terminating in a short raceme of four or five pure white flowers, with a light green spur $1\frac{1}{4}$ to $1\frac{1}{2}$ inches long, and sometimes minutely bifid at the apex. The flowers are about 9 lines in diameter, with the sepals ovate, apiculate, and the petals similar but much shorter. The lip is entire, subulate-linear, and 5 lines long, while the stigmas are clavate, and 1 line long. Its reappearance is interesting, and it will presumably require the temperature of the Warm house.

R. A. ROLFE.

CYMBIDIUM PARISHII VAR. SANDERÆ.

IT has frequently been a matter for complaint that collectors of new species do not furnish particulars of the conditions under which they grow in a wild state, so as to enable purchasers to cultivate them with some hopes of success, but this we are glad to find will not be the case with the above beautiful plant, whose history we gave at page 163 of our June issue, for Messrs. Sander & Sons have received a very interesting note from their collector, Mr. Micholitz, which has been forwarded to *The Garden*, and appears at page 141 of the issue for August 27th. It relates to the above-mentioned plant and a second species which the collector met with. Mr. Micholitz says:—"Cymbidium Sanderæ always grows on trees, frequently together with a large polypodium, where its roots seem to revel in the fern

roots and decayed leaves deposited in these fern stumps. A true epiphyte, growing in sparse numbers, making enormous quantities of roots in the spongy masses of the fern clumps, which are full of deposited leaves and other debris, excrement of birds and small animals. The red-flowered kind, however, which is provisionally called No. 1, grows under quite different conditions and surroundings. It may almost be termed terrestrial, for I found it on steep banks in ravines among thick grass and growing chiefly in a stiff, clayey-like soil, but never on trees. This fine Cymbidium has long spikes of open, rosy red flowers. Some very long spikes were on the plants, which must have been grand, but I was a little too late in reaching Lyang to see many plants in bloom. We were delayed many times on the road, and the flowering season was over on our reaching the mountains. I think you will find that these new Cymbidiums will do well, and flourish in or under similar conditions to Cymbidium eburneum, which must be grown warmer than Cymbidium Lowianum. The latter is a cold plant, and probably will do well with as little heat as any known Orchid. It is certainly as cool a grower as Cypripedium insigne, if not colder. The latter will stand strong heat, but I do not think Cymbidium Lowianum ever needs a tropical heat. It is possible that the beautiful red one (No. 1) will do with a more decided rest than C. Sanderæ, because at times those ravines must be nearly as dry as the sun-scorched plains, where the sand was so hot that it blistered the feet, but at night heavy dews would envelop the plants in the ravines for several hours, otherwise they would perish. C. Sanderæ would not be nearly so severely punished by drought, because the roots nestle in the spongy fern roots and debris, with more or less shade by day, and heavy dews at night, hence it would receive some moisture all the year."

From the brief details of habit and colour given, we strongly suspect that the Cymbidium No. 1 is the handsome C. insigne, described at page 230 of our last issue, which grows in sandy ravines at 4,000 to 5,000 feet elevation.

DISA GRANDIFLORA.—A remarkable display of this lovely terrestrial Orchid was exhibited by Mr. J. Sergeant, gardener to Henry Hansard, Esq., Millfield, Cobham, at the Oxshott Flower Show held in the Manor House grounds, Stoke d'Abernon, on July 20. The plants, arranged in a group, were not for competition, and were marvels of good culture. They were grown exclusively in shallow pans, and averaged ten spikes to a pan, each spike containing five or six bold flowers. It is very seldom that one has the opportunity of seeing this difficult plant grown in such good form. —W. H. Bailey in *Gardeners' Chronicle.*

ONCIDIUM AMPLIATUM.

ONCIDIUM AMPLIATUM is a very handsome Central American species which has long been popular in gardens. It was originally discovered by Cuming, near the Gulf of Nicoya, in Costa Rica, and shortly afterwards introduced to cultivation by Richard Harrison, Esq., of Liverpool, in whose collection it flowered for the first time in March, 1835, when it

Fig. 42. ONCIDIUM AMPLIATUM.

was figured in the *Botanical Register* (t. 1,699). It is evidently widely diffused in America, having since been found in Guatemala, the Isthmus of Panama, the province of Santa Martha, the Rio Magdalena district, and in the Island of Trinidad. In the Magdalena district it is said to grow on

trees overhanging streams at 500 to 1,000 feet elevation, inpartial shade. Our figure is from a plant which flowered in the collection of Dr. A. W. Hoisholt, of Stockton, California, and represents the typical form. The variety majus is a particularly fine form, in which the flowers sometimes exceed 1½ inches in diameter. It is one of the finest Oncidiums in cultivation, and when well grown makes a capital exhibition plant, as its large branching panicles of bright yellow flowers are very effective. It succeeds well in a Warm or Intermediate house, and flowers in April, May or June.

PARADISANTHUS BAHIENSIS.

THIS is an interesting little plant which flowered in the collection of Senator Jenisch, and was described by Reichenbach, in 1852, as the type of a new genus (*Bot. Zeit.*, x., pp. 930, 931). As its name implies, it had been introduced from Bahia. Shortly afterwards it was figured by the author, in his *Xenia Orchidacea* (i., p. 30. t. 14). What appears to be the same thing has just flowered in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, who purchased it at the Sale Rooms as Orchid sp. Its reappearance is interesting, though why it ever received such a name as Flower of Paradise is not clear. The genus is near to Aganisia, but is distinguished by having no stipes to the pollinia, and the gland transversely dilated. The leaves are lanceolate, three to 4½ inches long, and distinctly petiolate, while the erect scapes are nearly twice as long as the leaves, and bear about six to ten flowers, about eight lines in diameter. The sepals and petals are nearly white, with a few transverse purple bars at the base, and the lip white with a few slate-blue markings on the crest. The lip is three-lobed, and the side lobes are confluent with the crest, which consists of a prominent very concave body, with a few teeth at the apex and base.

Three other species of the genus have since been described, all natives of Brazil. P. Moseni, Rchb. f. (*Gard. Chron.*, 1881, i., p. 298), was collected by Dr. Mosen, and afterwards flowered with Messrs. F. Sander and Co., St. Albans, while P. paranænsis and P. paulensis were both described by Rodriguez, in 1881, from native specimens (*Gen. et Sp. Orch. nov.*, p. 215), the latter having been described four years earlier by the same author as Zygopetalum micranthum (*l.c.*, i., p. 109). P. paulensis has since been reduced to P. Moseni by Cogniaux (*Mart. Fl. Bras.*, iii., pt. 5, p. 518, t. 99, fig. 2), but the details of the lip and crest of Rodriguez's drawing do not agree with the cultivated plant, so that the point requires confirmation. P. paranænsis I think, has been in cultivation, for dried flowers taken from a plant which flowered at Kew in September, 1888, agree well with Rodriguez's figure (*Mart.*, *l.c.* p. 519, t. 99, fig. 1) in the details of the lip and crest. The species are very imperfectly known at present.

R. A. ROLFE.

ARACHNANTHE LOWII.

THIS remarkable Orchid is not often seen in flower, and less frequently exhibited, except occasionally in a cut state; it was therefore the more interesting to find a noble specimen of it, bearing four of its long pendulous racemes, in the group exhibited by Messrs. Sander & Sons at the Royal Horticultural Hall, on August 9th last. The enormously attenuated racemes are sufficiently remarkable, but what specially arrests attention is the constant occurrence of two kinds of flowers on the same inflorescence. The lowermost flowers are invariably different from the rest. They may be two, three, or four in number, but they are invariably distinguished by having broader, flatter sepals and petals, of a bright orange-yellow, dotted with brown, while the remainder have narrower, distinctly undulate sepals and petals, which are irregularly blotched with dull crimson on a greenish yellow ground. The transition from the one kind to the other is so abrupt, and the differences so striking as to attract immediate attention, but up to the present no satisfactory reason has been assigned for the peculiarity. It can scarcely be a sexual difference, as in the Catasetum group, for so far as can be seen on examination the pollinia and stigma are equally perfect in both, but its constancy shows that it has some significance in the economy of the species, and we hope some day to see the mystery explained. It probably has some relation to its insect visitors and the fertilisation of the flowers, but failing the opportunity of observing the plant in its native home, it is difficult to offer even a plausible suggestion. So acute an observer as Alfred Russell Wallace, who saw the plant in Borneo, and figured it in his *Malay Archipelago* (i., p. 128), makes no allusion to it, nor indeed to its two kinds of flowers, though he speaks of it as a most extraordinary plant, and as being particularly abundant near some hot springs at the foot of Peninjauh Mountain, hanging from the lower branches of the trees, and bearing numerous pendulous spikes of six to eight feet long, one, which was carefully measured, being as much as 9 feet 8 inches long, and carrying 36 flowers, which were spirally arranged on the slender stalk.

The plant is a native of Borneo, and appears to have been first detected by Sir Hugh Low about the year 1845, and described by Dr. Lindley from materials sent home by him under the name of Vanda Lowei (*Gard. Chron.*, 1847, p. 239). A plant mentioned by the discoverer must have presented a fine sight, for it is described as having about two hundred of its branches hanging horizontally from a large tree, each branch bearing two, three, or four chains of flowers, 10 to 12 feet long. No mention is made of the occurrence of two kinds of flowers on the racemes. It is said to grow on lofty trees on the river banks, and other humid places, being always found in the neighbourhood of water, and Messrs. Veitch remark that, over-

hanging the smaller streams, it sometimes occurs in company with Cypripedium Lowii. In the low, swampy forest near the coast of Sarawak, it is said by Curtis to be abundant, and in the rainy season many of the trees on which it grows are only accessible by means of a canoe.

The species appears to have flowered for the first time in cultivation in 1862, in the establishment of Messrs. James Veitch & Sons. In the report of one of the R.S.H. Shows, held on July 2nd of that year, it is recorded that Messrs. Veitch sent a "magnificent collection," including "Vanda Lowi, with a fine spike of rich reddish brown and buff blossoms, two of which at the base of the spike were yellow" (*Gard. Chron.*, 1862, p. 622). This appears to be the earliest record of the occurrence of two kinds of flowers, which afterwards attracted so much atttention. This plant had been sent home by Thomas Lobb. Shortly afterwards we find it flowering, in great perfection in the collection of S. Rucker, Esq., West Hill, Wandsworth, when the following note appeared (*Gard. Chron.*, 1862, p. 791) :—"There is now in bloom here a magnificent specimen of Vanda Lowei, a Bornean species of extraordinary beauty, introduced to this country some years ago by Messrs. Low, of Clapton. It is planted in a large pot filled with sphagnum and broken bricks, sunk in the floor of the house in which it is growing, and measures quite 8 feet in height. It has four lateral branches besides the main stem, all of which are furnished with long drooping chain-like flower spikes, eight in number, and measuring quite 7 feet in length, festooning from the roof, to which they are attached in the most graceful manner imaginable. These are covered with large showy blossoms, having a buff or rather pale lemon ground colour, most beautifully barred and blotched with rich cinnamon brown. When we state that on each spike there are at least forty flowers fully expanded at one time, not huddled together in a confused way, but set at regular distances apart, varying from three to four inches, some idea of the glorious appearance presented by a specimen of the size just described may be conceived. A singular circumstance connected with the inflorescence is, that at the base of every spike are two, and in some instances three, blossoms of a rich orange yellow, covered with minute black spots, and quite different in colour and form from that of the rest of the flowers on the same spike. . . . To Mr. Pilcher, Mr. Rucker's gardener, has been reserved the credit of first showing what this Vanda is capable of becoming under good cultivation, and well has the task been performed."

Since that time it has flowered in various collections, and numerous figures have appeared showing its remarkable character, and the way that the racemes have to be supported owing to their great length. One of these shows a plant which flowered in the collection of Baron Alphonse de Rothschild, at Ferrières-en-brie, in France, in July, 1885, carrying about seventeen

racemes. It is said that when it flowered again in 1887 it was still more extraordinary, and that 650 flowers were counted on the plant on that occasion (*Veitch Man. O.*, vii., p. 12). The number of yellow flowers on the spike has been observed to vary, even on the same plant. A strong specimen in the collection of Baron Hruby, Peckau, Bohemia, produced fifteen spikes in 1889, and the gardener, M. Faus, observed that while some of the spikes had three and others two yellow flowers, the number in the shorter spikes was reduced to one. In other cases as many as four yellow flowers have been occasionally observed.

The species varies but little. Reichenbach described a Renanthera Rohaniana from dried specimens, in 1885 (*Xen. Orch.*, i., p. 89), and it afterwards flowered in cultivation, and a coloured plate was given in the *Revue Horticole* (1879, p. 210), but a comparison with the older form, which had been previously figured in the same work (1868, p. 112) shows that the supposed novelty is but a trifling variety, having fewer and larger blotches on what may be termed the blotched kind of flowers. Veitch's var. Rohdeniana(*Man. O.*, vii., p. 10) is evidently a mistake for the same thing, as both are said to have come from the Lueddemann collection.

An interesting experiment was made by M. Kramer, gardener to Madame Jenisch, of Flotbeck Park, Hamburg, to ascertain whether there was any sexual difference between the two kinds of flowers. He self-fertilised the yellow flowers, and also fertilised them with pollen from the other kind, besides fertilising the blotched flowers with pollen from the yellow, and in all three cases ripe fruits were produced, from which he concluded that there was no sexual difference between them (Warn. *Sel. Orch.*, ii., t. 4).

Mr. J. C. Spyers also made a curious discovery which we should like to see confirmed. Speaking of the Burford Lodge plant, he remarked:—"A remarkable fact about this splendid Vanda is that the one or two yellow flowers at the base of the many-flowered spike emit a very powerful odour while none of the chocolate and white flowers are anything but slightly scented. The scent is peculiar, but not disagreeable" (*Gard. Chron.*, 1880, ii., p. 406). Commenting on this, Mr. Day observed:—"I have not remarked this, but no doubt it is so. I have had three plants in flower, but I never smelt at the yellow flowers." It need hardly be added that Mr. Day had made a very careful painting from one of his plants (*Coll. Draw.*, xxv., t. 35), but he had previously painted both kinds of flowers, which had been brought to him by Mr. Rucker in August, 1864 (*l.c.*, viii., t. 25). On that occasion he had observed that the anther and pollinia of the yellow flower was deformed and imperfect, and added—"I wonder if it is always so." He also noted that the flowers had a smell a little like cucumber, but less refreshing, in fact, rather sickening. Had he then noticed any difference between the scent of the two kinds of flowers he would certainly have noted it.

The problem awaits solution. It is certainly not analogous with the case of Grammatophyllum, in which two or three flowers at the base of the inflorescence are abortive, being reduced to four segments, through the loss of the lip, and the union of the pair of lateral sepals, which is accompanied by an imperfect column and anther. In the case of the Arachnanthe we may assume that the basal flowers have become specialised for some particular purpose—but what? Observation of the plant in its native surroundings may one day furnish an answer. The point should be borne in mind by those who have the necessary facilities. R. A. ROLFE.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on September 6th and 20th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold a meeting at the Botanical Gardens, Old Trafford, on Friday, September 9th, and a second meeting at the Coal Exchange, Manchester, on Thursday, September 22nd. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

An illustration of the group of Orchids exhibited at the recent International Horticultural Exhibition at Dusseldorf, by M. Firmin Lambeau, of Brussels, and to which the jury awarded the first prize of 800 marks, is given in the *Revue de l' Horticulture Belge* for June.

A group of Orchids exhibited at the meeting of the Nederlandsche Orchidophilen Club, held at Haarlem, on May 28th and 29th, is also illustrated in the July number, together with a nobile specimen of Oncidium sphacelatum exhibited at the same meeting by by M. J. D. Onderwater, and a good plant of Cyrtopodium punctatum exhibited at the Dusseldorf exhibition by M. Maurice Verdonck.

The August number of the same work contains a figure of a group of Dendrobiums in the collection of M. Van Vloten, of Zandvoord, near Haarlem.

A figure of a fine group of Orchids in the collection of J. Lawrence, Esq., M.P., Oaklands, Henley, Surrey (gr. Mr. Bannerman), appears in a later issue (1904, ii., p. 61). The plants are evidently very well grown.

A beautiful group of Odontoglossums in the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Chapman), is figured in a recent issue of the *Gardening World* (1904, p. 217, with suppl. plate).

A lecture on the "Preservation of Wild Flowers" was given by Prof. Boulger at the R.H.S. meeting on August 23rd. which included many references to the destruction of British and other Orchids, which it was contended should be protected by legislative enactment and other means. Cultivators of plants for sale and botanists were included among the delinquents, and among the remedies suggested were the concealment of habitats, their enclosure, the cultivation of wild forms, transplanting rarities, re-introductions, education, and legislative action. The lecture will be printed in the Society's Journal.

Flowers of a handsome Epicattleya, obtained from Epidendrum costaricense × Cattleya Gaskelliana alba, have been sent from the collection of Captain Holford, Westonbirt, Tetbury, by Mr. Alexander. They are white, and fairly intermediate in structure. They must be referred to Epicattleya × Lilianæ, raised by M. Maron and exhibited at a meeting of the Societé Nationale d'Horticulture de France, held at Paris in December last, and recorded as derived from Cattleya Gaskelliana × Epidendrum costaricense (*Journ. Soc. Nat. Hort. France*, 1903, p. 766). Whether this seedling is from the same source is not stated.

A flower of the pretty little Masdevallia × Veitchi-fragrans, which was exhibited at the last R.H.S. meeting, is sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, by Mr. Smith. It is most like M. fragrans in shape and colour, somewhat modified, however, and the yellow ground of the perianth tube is covered with numerous purplish hairs, which owe their origin to the influence of the M. Veitchiana parent. It is probably not fully developed at present.

A flower of a pretty little hybrid derived from Lælia cinnabarina × Cattleya intermedia is sent by Messrs. Cappe, of Vesinet, France. It is fairly intermediate in character, and must be referred to Lælio-cattleya × Amelia.

ORCHID PORTRAITS.

AERIDES CRISPUM.—*Gard. Chron.*, 1904, ii., p. 134, fig. 56.

ANGRÆCUM INFUNDIBULARE.—*Gard. Chron.*, 1904, ii., p. 130, with uppl. fig.; *Garden*, 1904, ii., p. 109, with fig.

BULBOPHYLLUM HAMELINII.—*Gard. Chron.*, 1904, ii., pp. 118, 124, fig. 51.

CALOPOGON PULCHELLUS.—*Journ. Hort.*, 1904, ii., p. 113, with fig.

CATTLEYA × F. W. WIGAN SUPERBA.—*Gard. Mag.*, 1904, p. 510, with fig.; *Journ. Hort.*, 1904, ii., pp. 162, 163, with fig.

CATTLEYA × HARDYANA.—*Amer. Gard.*, 1904, p. 493, with fig.

CATTLEYA × STATTERIANA.—*Journ. Hort.*, 1904, i., pp. 466, 467, with fig.

CORYANTHES SPECIOSA.—*Gard. Chron.*, 1904, ii., p. 106, fig. 44.

CYMBIDIUM SANDERÆ.—*Gard. Mag.*, 1904, p. 563, with fig.

CYPRIPEDIUM LAWRENCEANUM HYEANUM.—*Gard. World*, 1904, pp. 683, 689, with fig.

CYPRIPEDIUM MONTANUM.—*Gard. World*, 1904, p. 631, with fig.

CYPRIPEDIUM SPECTABILE ALBUM.—*Gard. World*, 1904, pp. 647, 650, with fig.

DENDROBIUM BELLATULUM.—*Gard. Chron.*, 1904, ii., p. 114, fig. 47.

DENDROBIUM THWAITESIÆ, VEITCH'S VAR.—*Journ. Hort.*, 1904, i., p. 401, with fig.

LÆLIO-CATTLEYA × HENRY GREENWOOD IMPERATOR.—*Gard. Mag.*, 1904, pp. 524, 525, with fig.

LÆLIO-CATTLEYA × INGRAMI.—*Journ. Hort.*, 1904, ii., p. 91, with fig.

LÆLIO-CATTLEYA × PISANDRA.—*Journ. Hort.*, 1904, ii., p. 137, with fig.

ODONTOGLOSSUM CRISPUM COLMANIANUM.—*Gard. World*, 1904, p. 629, with fig.

PHALÆNOPSIS SCHILLERIANA.—*Amer. Gard.*, 1904, p. 493, with fig.

VANDA PUMILA, Hook. f.—*Bot. Mag.*, t. 7968.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

W.S. It is difficult to say what your semi-established Odontoglossum crispum will develop into. The flower is very small, but the shape good and the sepals well blotched. The lip is very small, and we should suggest that the plant is very weak, though making an attempt to flower. When the plant becomes strong it may develop into a good form, in which case the unspotted petals should contrast well with the coloured and blotched sepals.

W.J.P.M. Oncidium longipes, Lindl., though a seven-flowered inflorescence, is somewhat unusual. O barbatum and O. micropogon are allied though distinct species, but O. altissimum belongs to quite a different group, and has a very tall inflorescence, as its name implies

W. B. Oncidium Forbesii and O. Gardneri.

E. R. The name is at present uncertain. Do you know the native country?

In response to numerous enquiries, we have to say that the *Orchid Stud-Book* is in the press, but the difficulty of dealing with the numerous incomplete or contradictory records has occasioned rather more delay than was anticipated. The additions will be dealt with as soon as the others are out of the way.

We have received the Catalogue of Orchids and other plants issued by M. Julius Roehrs, Exotic Nurseries, Rutherford, New Jersey, U.S.A., containing a select collection of Orchids, and some good photographic illustrations.

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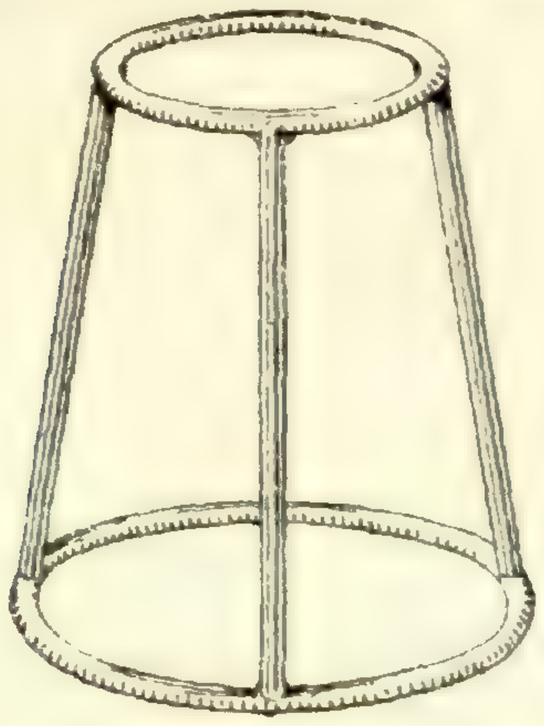

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NOTICE TO READERS OF

THE

ORCHID REVIEW

A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

Full details appeared in our March issue.

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The next MEETING of the COMMITTEE for the purpose of adjudicating upon the Orchids submitted will be held on September 22nd, 1904, at 12 o'clock prompt. Open to Members from 1 to 3 o'clock p.m.

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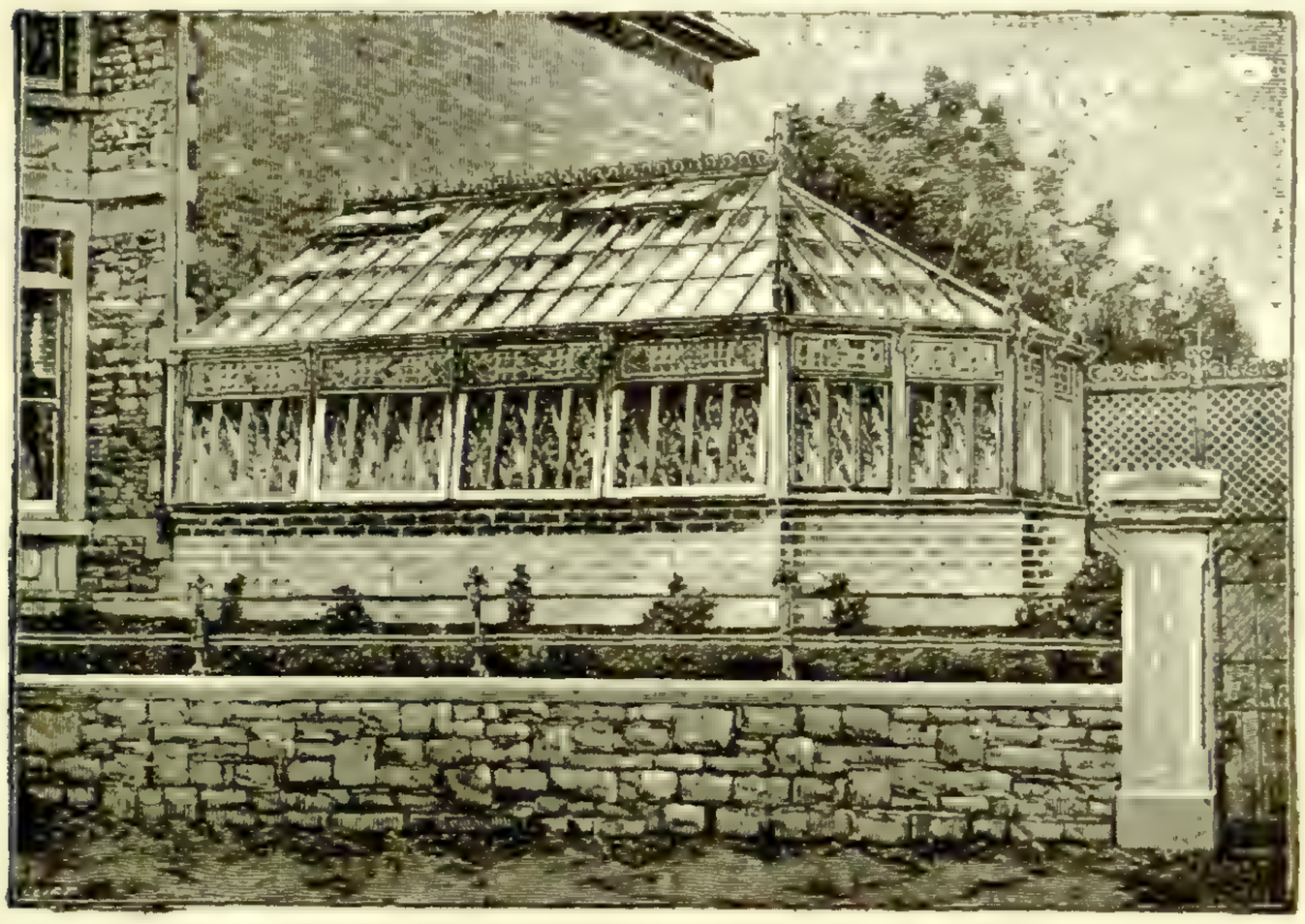

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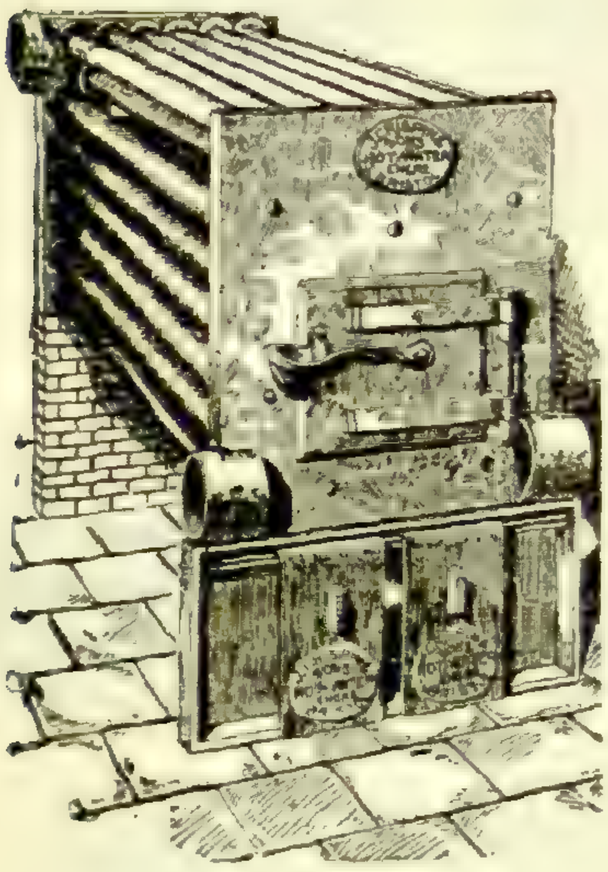

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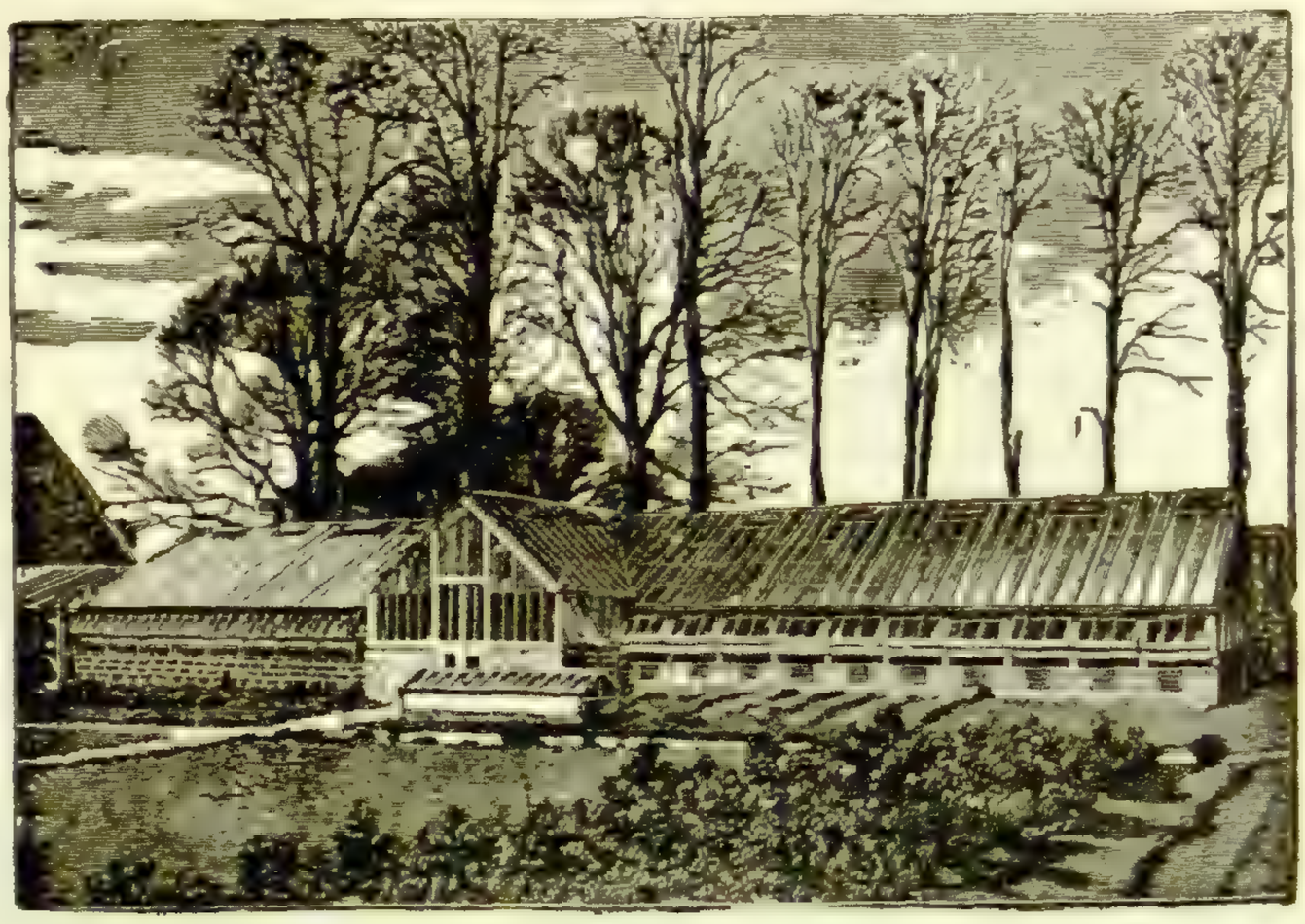

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XII.] *OCTOBER*, 1904. [No. 142.

THE AMATEUR'S COLLECTION.

WE now come to the Intermediate house, as the warmer of the two divisions mentioned at page 260 may be called. Here the beautiful genus Cattleya would be strongly represented, as the majority succeed well in this department, and several of them are eminently suitable for the amateur's collection. They require very similar treatment, except that allowance must be made for the different periods of growth and flowering of some of the species.

In making a selection we may take the popular labiata group first, and will commence with the old autumn-flowering C. labiata, which has been re-introduced in quantity during recent years, and which will soon be making its annual display. It takes a rest of about two months' duration after its pseudobulbs are mature, and then produces its brilliant flowers, which expand during October and November. C. Trianæ is another very popular species, which generally flowers from February to March, or occasionally a little earlier or later. C. Schrœderæ is very similar, but flowers on the whole a little later. C. Mossiæ and C. Mendelii are two very popular species which flower from April to June, like the two preceding, on the pseudobulbs of the previous year. The summer blooming kinds, on the contrary, produce their flowers at the apex of the young pseudobulbs, as soon as they are matured, without any interval of rest. Among these may be mentioned C. Warneri, flowering in June and July, C. Warscewiczii and C. Gaskelliana, two very popular kinds, flowering in July and August, and C. Dowiana, which differs from all the others in having yellow sepals and petals, in September and October.

Of the diphyllous section of the genus, C. Loddigesii and C. intermedia are two of the best, the former having light purple flowers, and the latter white with the front lobe of the lip purple. C. Leopoldi has green sepals and petals spotted with purple-brown, and C. amethystoglossa white spotted with purple. C. citrina differs from all the others in its pendulous habit, hence the plants should be fixed to blocks of wood with a little fibrous peat about the roots, or, better still, to shallow pans, which should be wired so

as to hang obliquely so that the plant may grow in its natural position. The flowers are also pendulous, and of a clear bright yellow.

Most of the Cattleyas succeed in pots, placed in a light position on the stage, but a few do better in pans or baskets suspended from the roof. This especially includes some of the smaller kinds not mentioned above, but C. Warscewiczii and C. Dowiana also require a light position, and succeed best in pans or baskets suspended from the roof. If repotting is required, it should be done just as the new shoots begin to push, so that the new roots may take hold of the fresh compost immediately. The pots or pans should be well drained, and a layer of moss added over the crocks to keep the drainage clear, and the compost should consist of about two-thirds peat and one-third sphagnum moss well mixed together, to which may be added a small proportion of oak or beech leaves. Use pots or pans just large enough to hold the base of the plant comfortably, and press the compost in firmly, care being taken not to injure the young roots. A few short sticks may be added, to which the pseudobulbs should be tied, in order to keep the plant firmly in position. In the case of repotting established plants it is best to remove any of the old exhausted compost with a pointed stick, care being taken not to damage the roots. Great care should be taken in watering until the new roots have taken hold of the new compost, a mere sprinkling being sufficient at first. During active growth more water will be required, but over-watering should be avoided at all times, and when the growths are completed the amount must be reduced.

Several fine Lælias do well under precisely the same conditions, and of these L. purpurata and L. tenebrosa are two excellent forms to commence with, the former having white sepals and petals, and the latter bronzy yellow, and both have rich purple lips. They should be grown in pots on the stage, well up to the light. No special treatment is necessary, and the plants may be grown on into noble specimens with ordinary care. L. purpurata, however, differs somewhat from the Cattleyas in being hardly ever at rest, and as it grows also during the winter it should not be allowed to get dry, though at this season watering at infrequent intervals suffices to keep the requisite amount of moisture in the compost.

The two preceding are Brazilian summer-flowering species, but two autumn-flowering species should also be included in the list, namely L. anceps and L. autumnalis, their beautiful purple flowers coming in very usefully in November and December. They require plenty of light, and succeed in baskets or hanging pans, in the usual compost. The lightest corner of the house should be selected for them, and shading is only required in the brightest weather. A good rest should be given after the flowering season is over, but the plants should not be allowed to shrivel for want of

water. Repotting or topdressing, as required, should be done during March.

Miltonia vexillaria is one of the most beautiful species suitable for this department, and thrives well under proper treatment, though less easily managed than some others. It should be grown in pots at the warm end of the house, well up to the light, but where it gets properly shaded from bright sunshine, and very careful watering is necessary at all times, but especially during the winter. It is specially liable to the attacks of yellow thrips, which if neglected soon work havoc with the plants, and the moment their presence is detected a little tobacco powder should be dusted down the axils of the leaves. If the leaves begin to decay at the tips the decayed portions should be cut away to prevent its spread, but as this is generally a symptom of too cool a situation or too much wet at the root, the cause should be ascertained if possible and of course remedied.

Odontoglossum citrosmum should be grown in pans or baskets in this department, and few Orchids are more beautiful when well grown. It requires somewhat special treatment. Pans or baskets should be used, and the compost should consist of about two-thirds fibrous peat, as it is rather impatient of removal, and need not be repotted more than once in three or four years if this is properly done. After its growth is completed, about the end of October, the supply of water should be gradually reduced for about a month, after which very little water should be given until March. The compost should not be allowed to get dust dry, but a slight shrivelling of the pseudobulbs is not injurious, and a complete rest is necessary to induce free flowering. In March or April the spikes begin to show in the new growths, when a little cotton wool should be placed round the latter, to ward off the attacks of slugs or woodlice. The amount of water should also be gradually increased, and after flowering the plants should be encouraged to make good growth. The cool end of the house should be selected for it.

SOBRALIA VIOLACEA ALBA.

A CHARMING white Sobralia with a deep yellow throat has just flowered with Messrs. Hugh Low & Co., Bush Hill Park, which I take to be a white form of S. violacea. The sepals and petals recurve very gracefully in the upper part, the former measuring $2\frac{1}{2}$ inches long by ten lines broad, and the latter $2\frac{1}{4}$ inches by eleven lines, these also being more obtuse, and prettily undulate in the upper half. The front lobe of the lip measures $1\frac{1}{4}$ inches across (without being artificially expanded) and is strongly crisped-undulate, and the throat and disc are orange-buff in colour, recalling Thunia Marshalliana in this respect. About seven prominent smooth keels extend throughout the disc, the remainder of the flower being pure white.

The species is rare in cultivation, though it seems to be common in a wild state. It was discovered by M. J. Linden, in 1842, and described four years later as S. violacea, Linden (*Lindl. Orch. Lind.*, p. 26), its habitat being given as follows:—"Abundant in the high regions of the province of Merida, at the elevation of 6,000 to 8,000 feet. Flowers pale violet or white with a yellow crest." Living plants were sent home, for in the *Folia Orchidacea* we are told that the white variety flowered with Mr. Rucker in July, 1847, and a coloured drawing of this flower is preserved in Lindley's Herbarium, where it is recorded that Mr. Rucker received the plant from Linden in 1844. It is uncertain when the violet one first appeared in cultivation, but there is a specimen preserved at Kew which is labelled "Sobralia violacea, Hort. Kew., April, 1864." It also flowered with Messrs. Linden, of Brussels, in October, 1891, and was figured in *Lindenia* (vii., t. 320), this being the only published figure of the species. Another white form flowered in the establishment of Mr. W. Bull, Chelsea, in May, 1886, which was drawn by Mr. Day (*Coll. Draw.*, xlix., t. 93), and was noted as a very lovely Sobralia, three feet high. A flower was sent to Reichenbach, who replied that he considered it to be a white variety of S. violacea. It differs from the one sent by Messrs. Low in having the margin of the lip lilac-purple instead of pure white, but agrees in shape and other details. A plant which has long been in cultivation under the name of S. virginalis has been taken for a white form of this species, but the one figured by Cogniaux (*Ic. Orch.*, Sobral., t. 3), has a much larger flower, though otherwise very similar. The variety lilacina, however (*l.c.*, t. 3a), is much smaller, in fact about intermediate between it and the one figured by Mr. Day, and it approaches the latter in colour, but is paler lilac.

The species seems to be widely diffused and variable, both in size and colour, being also collected at Merida, at 5,000 feet elevation, by Wagener, also by Moritz (the latter mentioning both white and violet varieties); at Bucamaranga, at 7,000 feet, by Weir; at Antioquia, by Jervise; at Rio Hacha and Maracaybo, by Purdie; near Taropoto, in Peru, by Spruce; also in Peru, by Matthews; and, lastly, in Bolivia, at Banos, at 6,000-7,000 feet, by Pearce; and at Yungas, by Bang. Purdie remarks:—"This beautiful and fragrant plant has numerous varieties of colour in different plants, varying from pure white to crimson and even purple." The species of Sobralia are rather difficult to determine in a dried state, and whether all the above represent a single species is not quite certain, but at all events no characters have been found for separating them. A complete collection of the species would be very interesting, but would require a good deal of room on account of their size.

R. A. ROLFE.

ONCIDIUM PRÆTEXTUM.

AMONG the Brazilian Oncidiums of the crispum group there has long been evidence of the existence of something analogous to that found in the case of Odontoglossum crispum in Colombia, namely that certain species grow intermixed, and that intermediate forms occur, which there is good reason to believe are of hybrid origin. An attempt has already been made to clear up some of these intermediate forms (*O.R.*, i., pp. 298-302), but we are hampered with the difficulty that very little is known as to which species grow together, and indeed as to the distribution of the species generally and the conditions under which they grow. Fortunately we have been promised some information as to these points from a well-known importer, which we hope will throw light on the origin of some of these doubtful forms, and in any case the information will be welcome. Already we have evidence of different species occurring in the same importation, but it is not always clear that some of this may not be due to accidental admixture after the plants were collected. An interesting case of this mixture of allied forms has just occurred in the collection of H. Emmons, Esq., The Copse, Hamble, Southampton, where O. Forbesii, curtum, Gardneri, and prætextum appeared among imported plants, together with one or two others whose identity remains uncertain at present. One of the forms mentioned has always been a rather doubtful plant, namely O. prætextum, and it may be interesting to bring together its rather scattered history.

Oncidium prætextum was described by Reichenbach, in 1873 (*Gard. Chron.*, 1873, p. 1206), from dried specimens sent by Mr. John H. Wilson, of Liverpool, which were said to have been collected in the province of San Paulo, Brazil, by Mr. E. D. Jones. The sepals and petals were described as horse-chestnut colour, with many yellow blotches, and the lip dark yellow with a broad brown margin round the anterior part, "excepting the last circumference, which is yellow." The author described it as allied to O. curtum, Lindl., but after comparing it with the whole of the O. crispum group he came to the conclusion that it was "a very lovely novelty."

Four years later we find it in cultivation, for on August 21st, 1877, a plant was exhibited by Messrs. James Veitch and Sons, at a meeting of the R.H.S., and was awarded a First-class certificate. It was noted as "a free-flowering new species, in which the sepals and petals are brown marked with yellow, and the labellum yellow margined with brown" (*Gard. Chron.*, 1877, ii., p. 248).

Immediately afterwards a plant was figured in the *Belgique Horticole* (1877, p. 357, t. 20), under the same name. It is said to have been recently introduced from Brazil, and flowered at the Chateau de Baillonville, in the rich collection of M. Dieudonné Massange de Louvrex.

In 1881 Reichenbach again wrote about it, as follows (*Gard. Chron.*, 1881, i., p. 720) :—"This fine Oncid. was first introduced by Messrs. Veitch in July, 1876. Then it flowered at Mr. W. Bull's. The collector of Messrs. Veitch seems to have been very enthusiastic about it, as many a collector is apt to be about his findings. He said the flowers were most elegantly placed in a very light and feathery-looking inflorescence, and to have at the same time a heavenly smell. . . . I can only state that it appears to surpass generally any variety of O. crispum in its rose colours coming nearer to O. Gardneri and Forbesii, distinct from the first in the long stalk to the lip, coming near that of O. Marshallianum. The calli distinguish it from O. Forbesii. A very fine dark brown variety was sent from Lion Walk, Colchester (New Bulb Company), by Dr. Wallace, and from the grand collection of M. Massange de Louvrex, Baillonville, près Marche, Belgique, by M. Wilcke, *chef des cultures*. Now Mr. Sander sends me a mass of varieties which are highly curious. They include a wonderful variety, with three almost equal lips, and at the same time fully developed columns."

A year later it was figured in the *Botanical Magazine* (t. 6662), from a plant which flowered in the Kew collection.

In 1882 the variety Leeanum was described (Rchb. f. in *Gard. Chron.*, 1882, ii., p. 494). The author there states that Mr. F. Sander had sent him a good supply of dried inflorescences of Oncidium prætextum, gathered by Herr Osmez, in Brazil. Among these was one extraordinary form. "The flowers had in lieu of petals lips, lips in formation, lips in callosity at the base, differing only from the genuine lip in being blotched on their yellow disc, as in the lip of O. Forbesii Borwickianum, instead of being spotless. . . . The plant came into the hands of Mr. W. Lee, Downside, Leatherhead, who in July kindly sent some flowers twice, all of which show this remarkable form. Under excellent management they are far superior to the wild-grown flowers. Thus I have at hand nineteen well developed fine flowers, all together offering the phenomenon of the triple lip. I feel pleasure to dedicate the glorious curiosity to its lucky possessor."

In 1884 the variety bellum was described (Rchb. f. in *Gard. Chron.*, 1884, i., p. 372), as follows :—"This has a glorious yellow lip, with numerous brown spots on the disc, and an interrupted border of similar, partly semilunar blotches. Its tall column, widely extended tabular infrastigmatica and calli prevent its being O. Forbesii ; the shape of its lip is against regarding it O. crispum. It has a very broad, furrowed pseudobulb. I have to thank for it Dr. Wallace, of the New Bulb Company, Lion Walk, Colchester."

In 1887 the species was figured in the *Gartenflora* (xxxvi., p. 1, t. 1238), when Reichenbach added that it was originally discovered by Dr.

Warming at Lagoa Santa, in the Province of Minas Geraes, North-West of Sabara.

Two forms of the species are depicted in Mr. Day's Collection of Drawings. The first was drawn in August, 1877 (*Coll. Draw.*, xxii., t. 35), and Mr. Day remarks:—"I picked up this very pretty Oncidium in bloom at Messrs. Low & Co.'s a few days since. I had not seen or possessed a plant of it before. It is pretty, but inferior to O. curtum and O. Forbesii, to the former of which it bears a general resemblance, but the column wings and crest are more like those of O. crispum, and so are the bulbs and leaves. The spike was two feet long, and the bulbs rough, and pale green, turning to olive brown in age, like those of O. crispum," The second form was figured a month later (*l.c.*, t. 36), and was bought at Stevens' in flower. Mr. Day adds—"I sent flowers of this to Professor Reichenbach, who writes thus:—'There is no doubt of your Oncidium being what I call prætextum. I cannot pretend to say whether it will prove a valid species or a subspecies.'"

Curiously enough, one of the plants included by Reichenbach is now considered identical with O. flabelliferum, Paxt., and simply a form of O. Gardneri—itself suspected to be a natural hybrid—namely O. prætextum of the *Belgique Horticole*, cited above. On the other hand a plant originally described as distinct seems to be scarcely more than a form of O. prætextum, namely O. Gravesianum (Rolfe in *Gard. Chron.*, 1892, ii., p. 651, fig. 94). This was introduced from Pernambuco, by Messrs. Sander, together with Cattleya labiata. If all the preceding are correctly referred to a single species, it is evident that O. prætextum is both common and widely diffused—Messrs. Veitch's plants, it may be added, came from Rio de Janeiro—and it would be interesting to know more about its exact distribution and the allied species with which it grows. It appears to be rather rare in cultivation of late years, and the probability is that few plants of the original importations now exist. All the species of the O. Forbesii group require similar treatment.

R. A. Rolfe.

Barkerias.—The species of Barkeria, as B. elegans, Lindleyana, and cyclotella, are not often seen in very flourishing condition, but are well worthy of attention, their pretty spikes presenting a gay appearance during the dull season. They thrive well when fastened to teak rafts, upon which is placed some living sphagnum moss, and suspended close to the roof of the Intermediate house, where they will get plenty of light, but not actual sunshine. Barkerias, like many other Orchids, are very sensible as to their likes and dislikes; and when once a suitable position has been found for them, there they should remain.—*Journal of Horticulture.*

SATYRIUM AURANTIACUM.

A SPECIES of Satyrium is described and figured in a recent issue of the *Journal of Horticulture* (1904, ii., pp. 256, 258) under the name of Satyrium aurantiacum, T. S. Ware. It is said to have been "shown at a Royal Horticultural Society's meeting in 1889 by Messrs. T. S. Ware, Ltd., and was so named by them, but we can find no other recognised authority for the name. The leaves are broad, the flower spike compact and long, the flowers being of a rich orange colour." On looking back we find that the name and figure appeared fifteen years ago (*Journ. Hort.*, 1904, ii., p. 285, fig. 36), and it is rather curious that the plant should not have been identified in the interval, for it has frequently flowered under its original name of S. coriifolium, Swartz, which it has borne for over a century. It has, however, a rather confused history, for Loddiges in 1818 figured it as S. cucullatum (*Bot. Cab.*, ii., t. 104), but it is not Swartz's plant of that name; and Lindley included it under S. erectum (*Gen. and Sp. Orch.*, p. 340). Then it is the S. aureum of Paxton (*Mag. of Bot.*, xvi., p. 31, with plate). It is a native of South Africa, and it may be interesting to give Mr. Bolus' note respecting it (*Orch. Cape Penins.*, p. 124):—"One of the commonest species on the Peninsula, and one which remains the longest in flower. It is especially abundant on the Flats, where insatiable flower-gatherers in spring carry off large batches of the scapes. The flowers are a clear bright orange, more or less varying to or tinged with a flame-coloured red. The colour seems constant, and easily distinguishes this species from any other, though I have seen plants from Diep River, which appeared to be hybrids between this species and S. carneum, and which had salmon coloured flowers only slightly modified in structure." The species is figured at t. 2172 of the *Botanical Magazine*, and a variety maculatum at t. 7289 of the same work. This latter flowered in the collection of H. J. Elwes, Esq., Colesborne, Gloucestershire, and also at Kew. This variety differs from the type in having deep yellow flowers, spotted with red, and Sir Joseph Hooker remarks that it "may possibly prove to be a hybrid," though without making any suggestion as to its parentage. The plant figured by Maund as S. erectum (*Botanist*, iii., t. 117), probably belongs to this variety, for the lowermost flowers are spotted in a similar way, but the spots are not shown on the upper flowers. It is said to have been collected on the Table Mountain, by a young German named Siebold, and was sent by him to Mr. Skirving, of Walton Nursery, near Liverpool, in May, 1838, and that it flowered in Mr. Skirving's stove in the following February. Mr. Bolus does not mention a spotted variety, and thus the exact status of this variety remains somewhat uncertain. It is interesting to collect the history of this very distinct and pretty, but sadly confused, species. R. A. R.

ANCISTROCHILUS THOMSONIANUS.

The annexed figure represents a neat little specimen of the handsome Ancistrochilus Thomsonianus, which has just flowered in the Kew collection, and is reproduced from a photograph taken by Mr. C. P. Raffill. The plant produced six racemes, two of which had three flowers each. It was grown in a basket in the Warm house, in the usual compost. The sepals and petals are pale lilac-pink, the side lobes of the lip light green dotted with dusky brown, and the front lobe and disc bright purple. The column is light green densely dotted with dusky brown. It is a charming little plant, and Sir Joseph Hooker remarked, "its graceful form and the

Fig. 43. Ancistrochilus Thomsonianus.

purity and brilliancy of its white, and the vividness of its purple, render it one of the most beautiful Orchids of its type and habit, which remind one of some Cœlogynes." The species is a native of West Tropical Africa, where it was discovered by Mr. W. Kalbreyer when collecting for Messrs. James Veitch and Sons, of Chelsea, and was described by Reichenbach in 1879, under the name of Pachystoma Thomsoniana (*Gard. Chron.*, 1879, ii., p. 582), being dedicated at Mr. Kalbreyer's request to "the late Rev. George Thompson, who was unusually kind-hearted in his English reception of the German traveller." Reichenbach described it as perhaps the most curious

discovery made in Tropical Africa by Mr. Kalbreyer, regarded from a geographical point of view, as all the Pachystomas known were of Asiatic origin, and he added :—"The large green, white and purple flowers, with a certain Phalænopsis shape, recommend the plant." It was shortly afterwards figured from the same source (l.c., pp. 624, 625, 627, fig. 102, 103), one of the figures showing a neat little specimen with about eight racemes. It was also figured in the *Botanical Magazine* (t. 6471), when Sir Joseph Hooker expressed his doubts whether it really belonged to Pachystoma, though he was unable to find a better place for it among described genera. Reichenbach afterwards made a new section of the genus for its reception, which he called section "Thomsonianum" (*Xen. Orch.*, iii., p. 35, t. 213). Pfitzer transferred the plant, with some doubt, to Ipsea (*Engl. and Prantl., Pflanzenf.*, ii., pt. 6, pp. 154, 155, fig. 138), and finally I established a new genus for its reception, under the name of Ancistrochilus (*Fl. Trop. Afr.*, vii., p. 44), in allusion to the hook-like front lobe of the lip. It is allied to Pachystoma, but is readily distinguished by the pollinia being attached to a single stipitate appendage, and by its remarkable lip. Its habitat is given as mountains of Old Calabar, at a moderate elevation, growing on the trunks of trees. It is very easily grown under suitable treatment, and the following cultural note is given by Messrs. Veitch (*Man. Orch.*, vi., p. 4) :—"Inhabiting one of the hottest parts of the globe, its geographical position indicates its chief cultural requirements, viz., a constantly warm and moist atmosphere, such as is maintained in the Phalænopsis house. A suitable provision should be made for its subterrestrial creeping habit, such as a shallow pan or teak basket, that can be conveniently suspended near the root-glass of the house."

R. A. R.

MILTONIA KARWINSKII.

A RARE and very handsome Orchid is flowering in the collection of J. E. Vanner, Esq., Camden Wood, Chislehurst. Mr. Robbins, in sending a couple of flowers, remarks :—"The plant is carrying a branching spike of about fifteen flowers, and a very lovely thing it is. It was named for us some years ago by Reichenbach, but I never remember having seen it anywhere excepting here." It is indeed rare, for I have only seen it alive in September, 1888, when two flowers were sent to Kew by Messrs. James Veitch & Sons, as "Odontoglossum læve var., from a collection at Camden Wood, Chislehurst." These were evidently from this selfsame collection, in the time of the late William Vanner, Esq., then, as now, under the charge of Mr. W. H. Robbins.

The species was originally described by Lindley, in 1837, under the name of Cyrtochilum Karwinskii (*Bot. Reg.*, xxiii., sub. t. 1992), from

specimens in the Munich Herbarium, which had been collected at Teoxomulco, near Oaxaca, S. Mexico, by Count Karwinski. Shortly afterwards he transferred it to Oncidium (*Sert. Orch.*, sub. t. 25), and in 1848, on its flowering in cultivation, to Miltonia. It appears to have flowered for the first time in cultivation in August, 1848, in the collection of the Horticultural Society, at Chiswick, when a description and figure appeared under the heading of "New Plants, etc., from the Society's Garden," under the name of Miltonia Karwinskii (*Journ. Hort. Soc. Lond.*, iv., p. 83, with fig.). It is said to have been received from Mr. Hartweg, and is supposed to have been collected at Oaxaca, in 1839. Its history is thus given:—"This beautiful plant was originally described from a small dried specimen brought from Mexico by Count Karwinski, and was then referred successively to the genera Cyrtochilum and Oncidium; it is, however, a true Miltonia, and one of the finest plants in cultivation. Imagine a rod three feet long, stiff, and nearly upright, being covered for three parts of its length, at intervals of an inch and a half, with large gay white purple yellow and brown flowers, fully 2½ inches in diameter, and an idea will be formed of this charming species. The sepals and petals are bright yellow, barred and spotted with brown; the lip is white at the point, deep violet at the base, and blush in the middle space. The column is nearly white, and adorned by two serrated hatchet-shaped wings. It requires to be treated like an Oncidium, and to be grown in rather a cool temperature, in pots filled with fibry peat and half-decayed leaves, well drained. It is one of the most beautiful and distinct Orchids in cultivation." Shortly afterwards a coloured figure appeared in *Paxton's Magazine of Botany* (xvi., p. 162, fig. 1). Finally Reichenbach changed the name to Odontoglossum Karwinskii (*Bonplandia*, 1855, p. 214).

It is curious how little further is known about the plant. Reichenbach remarked that he had only seen Karwinski's original specimen (*Walp. Ann.*, vi., p. 842), and Lindley's Herbarium only contains a single flower, apparently from the same source, and a coloured drawing of a single flower from the plant which flowered with the Horticultural Society. Two other specimens afterwards mounted on the same sheet by Lindley belong to Odontoglossum Reichenheimii. Messrs. Veitch make both it and O. Reichenheimii synonymous with O. læve (*Man. Orch.*, i., p. 42), but the three are quite distinct, though allied species, and this raises the question which genus they should be referred to.

The fact is the plant belongs to a natural group of five species, two of which are now referred to Miltonia and three to Odontoglossum. The second Miltonia is M. Schrœderiana, which was described by Reichenbach in 1887 as Odontoglossum Schrœderianum (he had previously given the same name to a very different plant), but which was shortly afterwards

referred to Miltonia by Mr. J. O'Brien. The others are, Odontoglossum Reichenheimii, Lind. and Rchb. f., O. læve, Lindl., and O. leucomelas, Rchb. f., a species which seems to have been lost sight of. O. læve differs from the others in having a broad unguis to the lip, nearly parallel to the column, from which the limb is sharply reflexed, but in other respects it agrees with this group. The affinity of the group is with Miltonia rather than Odontoglossum, though the limits of the latter genus are difficult to define.

Miltonia seems to comprise three distinct geographical groups. First Miltonia proper, comprising the well known Brazilian species, M. spectabilis, Clowesii, Regnellii, candida, flavescens, and a few others; second, the Colombian group, containing M. vexillaria, Roezlii, Phalænopsis, and Endresii; and, third, the Central American group, containing the following species:—

1. M. KARWINSKII, Lindl. (references and history given above).

2. M. SCHRŒDERIANA, O'Brien in *Gard. Chron.*, 1889, ii., p. 210; *Veitch Man. Orch.*, viii., p. 107, with fig.; *Cogn. Ic.*, Milt., t. 3. Odontoglossum Schrœderianum, Rchb. f., in *Gard. Chron.*, 1887, i., p. 364; *Orch. Alb.*, viii., t. 342; *Reichenbachia*, ser. 2, ii., p. 105, t. 96.

3. M. REICHENHEIMII. Odontoglossum Reichenheimii, Lind. and Rchb. f. in *Bonpl.*, 1855, p. 214; *Pescatorea*, t. 19; *Batem. Monagr. Odont.* t. 15; *Warn. Sel. Orch.*, ii., t. 16. O. læve, Lem. *Ill. Hort.*, vi., t. 213 (not of Lindl.).

4. M. LEUCOMELAS. Odontoglossum leucomelas, Rchb. f., in *Bot. Zeit.*, 1864, p. 415.

5. M. LÆVIS. Odontoglossum læve, Lindl. *Bot. Reg.*, 1844, t. 39; *Batem. Monagr. Odont.*, t. 16; *Bot. Mag.*, t. 6265; *Veitch Man. Orch.*, i., p. 42: (excl. syn.).

Thus the genus is somewhat analogous with Cattleya and some others in its distribution, which is not surprising considering how similar are the conditions under which the plants grow.

Since the above was written, Mr. Robbins has sent a note from the late Mr. W. Vanner's Note-Book; as follows:— "Bought at Protheroe and Morris' Sale Rooms in August, 1885, as Odontoglossum sp., flowering the following year, when it was sent to Reichenbach, and named by him Odontoglossum Karwinskii." Mr. Robbins adds that he has had much difficulty in growing it, and he thinks that this is the third time that it has flowered since they have had it. It is also interesting to add that the spike has been sent to Kew for preservation.

It would be interesting to re-introduce it, and to know more of the conditions under which it grows.

R. A. ROLFE.

CALENDAR OF OPERATIONS FOR OCTOBER.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE beautiful weather of the past month has been all that could be desired for the maturing and plumping up of a great many Orchids, but with October here, we must be prepared for every kind of weather, other than that we require; fog, frost and cold winds, all against the successful management of our glass-house inmates. These will, therefore, now require careful attention, to fit them for the artificial conditions which prevail in these structures during the winter months. One important matter with regard to the management of Orchids during October is the proper regulation of the atmosphere in the houses, especially at night, as sharp frosts frequently make their appearance at this season. The grower must be continually on the alert to prevent, as far as possible, any great fluctuations in the temperature, so that any evil effects on the plants from this cause may be avoided.

We cannot expect the fine weather to last much longer. At the time of writing there is little difficulty in regulating the day temperatures, but, in order that sufficient air may be given, the hot-water pipes are kept a trifle warmer than was necessary a month ago. This only applies to the warmest divisions; as regards the Cool houses, owing to the majority of the inmates having been recently potted, a little closer atmosphere will be maintained until the plants have re-established themseives, and unless the weather becomes cold little artificial heat will be necessary. The following figures will be a guide to the temperatures most suitable during the next month :—

East Indian house, day, 70° ; night, 65°.
Cattleya house, day, 65° ; night, 60°.
Intermediate house, day, 60° ; night, 58°.
Cool houses, day, 55° ; night, 50°.

The day temperature will vary somewhat, according to the outside conditions, whether they be bright and warm, or dull and cold, but the night temperatures should be kept as even as possible with the aid of artificial heat.

Where permanent shading has been used it should now be cleared off, and everything done to secure for the plants the maximum amount of light. Plants should be raised well up to the light, by using inverted pots or other means, which also allows the air to circulate round them freely. Strong plants are by this means maintained in health, and weakly ones have a chance to recover. With the exception of the Cool house, the blinds should be taken down, when dry, and stored away; unless they are required as a protection against cold in winter. On the Cool house

they may be required for a few hours during bright sunny days. Where Cattleyas and Mexican Orchids are grown no shade should now be given. Air should be admitted as freely as the outside conditions permit, and less water will suffice for damping, unless much fire heat is required. Water now with a good deal of care and discretion, for as the days shorten and become darker much less moisture is needed to keep the plants plump and healthy. Avoid draughts, however, which produce starved-looking plants with shrivelled up pseudobulbs, for such plants rarely fully recover. The above remarks apply equally well to such Orchids, as the Oncidiums, Zygopetalums, Miltonias, Cymbidiums, Cypripediums, &c., excepting that the majority of these, being continually in a growing condition, will require a little more water at the roots, though with these also watering should be done carefully, for nothing whatever is gained by keeping any Orchids —whether growing or otherwise—too wet at the roots.

As more warmth from the hot water pipes is needed in the East Indian house, twice a day for damping down will not be too often. The active growing period of most of the inmates of this department has now passed, and they will enjoy a somewhat drier atmosphere, in order to harden off the growth, and to prevent damping. Air should be admitted on all favourable occasions. Of course, I do not advise such an airy and dry treatment as for the Mexican Orchids, as that would quite ruin many of these warmer ones, and especially those having no pseudobulbs.

Many plants that made their growth in this house are now, on its completion, resting in the cooler temperature of the Cattleya or Mexican houses. Among these are, of course, many of the Dendrobiums. Then there are the genera Mormodes, Chysis, Cycnoches, and Catasetum, which have flowered, all enjoying similar treatment.

Besides being necessary to remove some plants to cooler quarters at this season, there are also a good number that are better if transferred to warmer houses for the winter. Some of the intermediate growing kinds will be taken to the warm house, such as Miltonia spectabilis and its variety Moreliana, M. Clowesii, M. cuneata, and M. Phalænopsis, also the Acinetas and allies. Unless Cattleya Lawrenceana has been grown in the warm house, it should be taken there now, in order to hasten the completion of its pseudobulbs, as the growth is often backward. There are also several other Cattleyas which, although growing well with the rest, are all the better for a little extra heat during winter, such a C. Rex, C. Luedde-manniana, C. superba, C. Eldorado, C. Aclandiæ, C. intermedia, and any hybrid that may have been derived from these species.

Many of what are known as intermediate Orchids are grown well in the coolest house for the summer, but it is better to remove them again during this month. I refer to such species as the Anguloas, Lælia pumila

Maxillaria venusta and M. grandiflora, Dendrobium Jamesianum, D. infundibulum and D. longicorne, Odontoglossum Reichenheimii, Oncidium cheirophorum, Vanda Kimballiana, and others, it is advisable to remove to this house for the winter. The Masdevallias, too, are generally considered cool Orchids, but they always do better for a few degrees more warmth, and if not taken to a warmer house should be given the warmest end, especially that pretty little M. tovarensis, M. ephippium, and all the species of the Chimæra section. Lælias pumila and Dayana are just now showing for bloom. These also do well in the Cool house during summer, but should now be removed to the Intermediate house, where the flowers will open much finer.

The deciduous Calanthes are pushing their spikes rapidly; keep them still in a nice warm temperature, but reduce the supplies of water, as they will not require so much as before. Those of the Mexican Lælias that are producing their flower spikes should yet have a sufficient amount of water given until they bloom, or the strain upon the plant will be very great. Let all the plants be now gone over and well cleaned; extra attention can now be given to this most important work, as damping down and watering will take much less time, and there is little or no repotting to be done. Time spent in cleaning and freeing the plants from their natural enemies is always well spent.

CYMBIDIUM NIPPONICUM.

In a recent issue of the *Tokyo Botanical Magazine* (1904, p. 107) we find a description of a curious leafless Japanese species of Cymbidium under the name of C. nipponicum, Makino. It is based on Bletia nipponica, Franch. & Savat., and the author has evidently overlooked the fact that this plant was transferred to Cymbidium about nine years ago (Rolfe in *Orch. Rev.*, iii., p. 39). It was also described and figured as a new species, under the name of Cymbidium pedicellatum in 1900 (Finet in *Bull. Soc. Bot. France*, xlvii., p. 268, t. 9, fig. A). In neither case is there any information as to whether the species is parasitic, like its Indian ally, C. macrorhizon, Lindl., though Makino remarks:—"This Orchid is found on hills or in fields not too far from sea," and that it flowers from June to August. With respect to C. macrorhizon, Mr. Gustav Mann has written, since my former note:—"It is a parasite, but I have never succeeded to dig up a joining of the rootstock, which is very brittle, with the roots of another plant." Messrs. Sander received a plant of it some time ago from India, but it was dead on arrival, and under the circumstances named it is unlikely that either of the species will appear in cultivation.

R. A. R.

ONCIDIUM RETEMEYERIANUM.

A PLANT of this very rare species has just flowered in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, and shows once more how very distinct it is from all its allies, in fact the very dark purple fleshy lip has been not inaptly compared with that of Cottonia peduncularis. The species originally appeared in the collection of Herr Retemeyer, at Bremen, in 1856, and was described by Reichenbach (*Bot. Zeit.*, xiv., p. 513), being placed in the Sarcoptera group, near O. carthaginense and O. luridum. A year later it flowered with M. Chantin at Paris, and in August, 1866, also in the collection of W. Wilson Saunders, Esq., at Reigate, when it was figured in the *Refugium Botanicum* (ii., t. 74). It has the general habit and fleshy leaves of its allies, but is much dwarfer, the plant figured having leaves about 4 inches long, and the spike about a foot high. The flowers are about 9 lines across, with the somewhat fleshy sepals and petals red-brown, and a yellow area near the base, while the pandurate, very fleshy lip is dark blackish purple, except at the bright yellow base. The crest consists of five fleshy blackish purple tubercles, and the fleshy column wings are of the same colour, while the pollinia are orange-yellow. Mr. Wilson Saunders remarked :—" This species of Oncidium, so very remarkable in the colour and substance of its flowers, was sent to me from Mexico by Mons. Boucard. It does not flower freely, and is not a vigorous grower. It succeeds best in a moderate temperature, suspended on a block or in a basket near the light. It must be kept dry during the winter, but will bear a moist atmosphere when growing. M. Kienast Zolly, of Zurich, has also since obtained it from Mexico, and it has also flowered in one or two other collections, though it is not often met with.

R. A. R.

DIFFICULTIES OF ORCHID IMPORTING.

IMPORTERS of Orchids have various difficulties to encounter, and one of them is very amusingly caricatured by that well known artist, the late George Cruikshank, in Mr. James Bateman's ponderous work, *The Orchidaceæ of Mexico and Guatemala.* The sketch is here reproduced (fig. 44) from a photograph, together with Mr. Bateman's quaint description of the incident, which is almost as amusing as the sketch itself.

" Those who have ever received a case of Orchidaceæ from the Tropics, know full well that the opening of it is attended with the most intense and feverish excitement: and those who have not been so fortunate, will be glad to gather some notion of such *stirring* scenes from the accompanying Vignette,—which, it is needless to say, is from the inimitable pencil of

Cruikshank.—If we read aright the address on that box, the cargo belongs to one of the most staunch and scientific collectors of his day, and we, therefore, only the more deeply deplore the calamity with which, it is but too clear, his importation has been visited. The conduct of his people is, however, beyond all praise; and we earnestly pray that their gallant exertions may be crowned with triumphant success. It is indeed a cruel thing to expect Epiphytes, and receive only Cockroaches!! to see the *very* case which ought to have been richly stored with lusty *Orchidaceæ*, prove, upon opening, to contain nothing more than—

'Lucifugis congesta cubilia *blattis*!!'

VIRGIL.

FIG. 44. AN EXCITING INCIDENT, DEPICTED BY GEORGE CRUIKSHANK.

. . . . . curramus præcipites, et
'Dum jacet in ripâ, calcemus Cæsaris hostem.'

JUVENAL."

The drawing suggests as a free but by no means a literal translation: "They ran helter skelter, hurling themselves upon the foe, and completely vanquishing them"—for the time being. At all events, their presence in our collections to-day suggests that they were not completely annihilated. These gentlemen are ardent orchidophilists, and connoisseurs too. The other day we went to see a striking new hybrid, purchased for fifty guineas, and found that the previous evening one of them had made a hearty supper off the flowers. We hope it disagreed with him.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

A MEETING of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on September 6th, when there was an average display of Orchids for the season, and four medals were awarded, also an Award of Merit and a Botanical Certificate.

The Hon. Walter Rothschild, M.P., Tring Park (gr. Mr. Dye), received a Silver Banksian Medal for a very interesting group, containing the rare Aëranthes *zygopetaloides*, Restrepia striata, R. elegans, R. leopardina rosea, a reddish scarlet form of Lælia flava, the remarkable Epidendrum (Nanodes) Mantinii, an inflorescence of the showy Bulbophyllum Ericssoni, and several Masdevallias, including M. melanoxantha, M. maculata and its finer variety superba, M. peristeria, M. infracta, M. Vespertilio, and M. Burbidgeana, the latter a very rare species of the Chimæra group, approaching M. Chestertoni in colour, which received a Botanical Certificate.

Captain G. L. Holford, C.I.E., Westonbirt, Tetbury (gr. Mr. Alexander), received an Award of Merit for Cattleya × Iris Westonbirt var. (bicolor × Dowiana aurea), a very distinct form having pale yellow sepals and petals, slightly tinged and veined with pink, and the lip bright rose-purple. He also showed *Zygocolax* × Wiganianus superbus, a handsome form of this hybrid.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), sent Cypripedium × Transvaal superbum, a large and richly-coloured form, together with cut examples of C. × callo-Rothschildianum, C. × I'Ansoni, and C. × Veitchio-Morganiæ.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), showed Cattleya × Pittiana Marshall Oyama (granulosa × Dowiana aurea), having creamy white sepals and petals tinged with rose, and a rose-purple lip.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Smith), showed a pretty hybrid *Zygopetalum*, called *Z.* × max-Jorisii (maxillare × Jorisianum), having green sepals and petals marbled with brown, aud a white lip with some purple at the base.

Gurney Wilson, Esq., Glenthorne, Hayward's Heath, showed an imported piece of Cattleya Loddigesii, having two pseudobulbs and a fine inflorescence of ten flowers.

Messrs. James Veitch and Sons, Chelsea, staged a fine group of hybrids, to which a Silver Flora Medal was awarded. It contained a fine series of Lælio-cattleyas and allies, the more noteworthy being some fine forms of L.-c. × callistoglossa and L.-c. × bletchleyensis, L.-c. × Nysa, L.-c. × Parysatis, L.-c. × Bryan, L.-c. × Haroldiana, L.-c. splendens, L.-c. ×

Madame Chas. Maron, Cattleya × Pittiana, Lælia × Pacavia, Cypripedium × H. Ballantine, &c.

Messrs. Sander and Sons, St. Albans, also received a Silver Flora Medal for a fine group, including both species and hybrids. Noteworthy among them were four good plants of Phalænopsis Esmeralda, bearing an aggregate of a dozen racemes, the handsomely-fringed Chondrorhyncha Chestertoni, Lycaste Schilleriana, Calanthe veratrifolia, Brassia verrucosa, some good forms of Cypripedium insigne, C. × Memnon, some good forms of Lælio-cattleya × callistoglossa, L.-c. × bletchleyensis, L.-c. × Henry Greenwood, L.-c. × blesensis, and others.

Messrs. Hugh Low and Co., Bush Hill Park, staged a brilliant group, which received a Silver Banksian Medal. It contained a good form of Odontoglossum crispum bearing a spike of twenty somewhat spotted flowers, Cattleya Gaskelliana alba, C. Eldorado enfieldensis, two forms of C. Grossii, one of which had a very large flower with spotted sepals and petals and a rich rose-purple lip, Phalænopsis Sanderiana, P. Esmeralda, P. violacea Low's variety, having the lip wholly bright violet-purple, the rare P. denticulata having yellowish white flowers barred with cinnamon-brown, Dendrobium Phalænopsis, and a pretty blush white form of the same, Aërides Lobbii, Lælio-cattleya × Ingramii, &c.

The Report of the Scientific Committee of the same date contains the following note respecting some Orchid leaves sent by Mr. Douglas, which were supposed to be affected with some disease:—

"*Orchid leaves*.—Dr. Cooke reported that the light-coloured spots on Cypripedium leaf forwarded by Mr. Douglas were deficient in chlorophyll and semi-translucent, but contained no trace of fungi."

At the meeting held on September 20th there was a very fine display of Orchids, medals being awarded to five of the groups exhibited, and the other awards consisted of one First-class Certificate, five Awards of Merit, and two Cultural Commendations. Paphiopedilum glaucophyllum is an interesting novelty, exhibited for the first time.

The Hon. Walter Rothschild, Tring Park (gr. Mr. Dye), staged a very interesting group, to which a Silver Banksian Medal was awarded. It contained a handsome form of Cattleya Dowiana, C. × Minerva, Lælio-cattleya × Hermione, L.-c. × Bryan, Restrepia maculata, R. sanguinea, R. aspasicensium, the remarkable Masdevallia muscosa, M. Wendlandiana, M. Carderi, varieties of M. Chimæra, M. troglodytes, M. peristeria, M. Wageneriana, M. macrura and var. maxima, several pretty hybrids of the genus, four species of Scaphosepalum, &c. A Cultural Commendation was given to a finely grown plant of the remarkable Angræcum infundi-

bulare, and an Award of Merit to A. Rothschildianum, a very interesting species whose history was given at page 230.

H. S. Goodson, Esq., Fair Lawn, West Hill, Putney (gr. Mr. Day), also received a Silver Banksian Medal for a good group, containing two specimens of Lycaste Skinneri alba, Cattleya bicolor, C. Eldorado alba, two good C. Dowiana, C. × Pittiana, Lælio-cattleya × bletchleyensis, three good L.-c. × elegans, two fine L.-c. × Gottoiana, Polystachya luteola, Cypripedium Spicerianum, C. purpuratum, and a number of interesting hybrid Cypripedes.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), sent the handsome Miltonia vexillaria Leopoldi, Cattleya × Parthenia Prince of Wales, Sophrocattleya × Chamberlainiana Wigan's var., and Lælio-cattleya × Constance Wigan (L. xanthina × C. Rex), the latter a handsome thing, with clear yellow sepals and petals, and the front of the lip purple, which received an Award of Merit.

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), sent a pretty hybrid called Cattleya × intermedio-gigas, and very much resembling C. × Minucia.

Malcolm S. Cooke, Esq., Kingston Hill, sent a fine form of Lælio-cattleya × elegans.

H. Little, Esq., Baronshalt, Twickenham (gr. Mr. Howard), sent the richly-coloured Lælio-cattleya × elegans Littleana.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent the handsome Cattleya × Maroni splendens bearing a spike of seven flowers, C. × Lady Ingram Westfield var., another very fine example bearing a five-flowered spike, and Cypripedium × Shawianum magnificum, a fine C. Lawrenceanum cross with handsomely spotted petals.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a magnificent group, to which a Silver-gilt Flora Medal was awarded. It contained a small plant of the Javan Paphiopedilum glaucophyllum (J. J. Smith), an ally of P. Chamberlainianum, six good forms of Lælio-cattleya × Haroldiana, several fine L.-c. × callistoglossa, L.-c × Mandarin, a fine Brassocattleya Madame Chas. Maron, two fine examples of Odontoglossum grande bearing spikes of eight and nine flowers each, Miltonia × Bleuana, M. × Binotii, Cattleya × Vulcan, C. × Chamberlainiana, and other interesting things. A remarkable batch of the handsome Cattleya × Iris (bicolor × Dowiana), showing remarkable variation, must also be mentioned, and two of them received Awards of Merit. These were var. aurifera, having golden yellow sepals and petals slightly tinged with green, and a brilliant ruby-purple lip, and Prince of Piedmont, with bronzy-yellow sepals and petals, and a rich reddish purple lip, with traces of orange-colour near the base. A First-class Certificate was given to

Odontoglossum crispum xanthotes Charlesworthii, a very handsome form, bearing a spike of eight fine white flowers, with chrome-yellow markings, these consisting of groups of eight to ten blotches on the sepals, and one to three on the petals and lip, with a few short lines on each side of the latter.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for a fine group, including some good varieties of Lælio-cattleya × Canhamiana, L.-c. × eximia, L.-c. × bletchleyensis, Cattleya × Maroni, C. × Boadicea (Hardyana × Gaskelliana), a richly-coloured hybrid, a plant of Pescatorea Klabochorum bearing four handsome flowers, forms of Cypripedium insigne, C. × Prince Humbert (niveum × Mastersianum), having waxy white flowers dotted with purple lines, C. × Annie Measures, C. × Actæus, C. × Elmireanum, C. × Wm. Matthews, C. × Persephone, &c. An Award of Merit was given to Lælio-cattleya × eximia Sander's var. (C. Warneri × L. purpurata), a large and very richly coloured form.

Messrs. James Veitch & Sons, Chelsea, also received a Silver Flora Medal for a fine group of hybrids, conspicuous in which were eighteen plants of Lælio-cattleya × bletchleyensis, varying considerably in colour several good forms of L.-c. × Nysa, L.-c. × Wellsiana, L.-c × callisto-glossa ignescens, L.-c. × Haroldiana, L.-c. × Robin Measures, L.-c. × Hermione, L.-c. × Digbyano-Warscewiczii, Cattleya × Pittiana, C. × Casca (Gaskelliana × velutina), &c.

Messrs. James Cypher and Sons, Cheltenham, sent a small group of good things, including three fine clumps of Rodriguezia venusta, each bearing about thirty long racemes of fragrant white flowers (a Cultural Commendation being awarded), the charming Cypripedium × Maudiæ, and C. × Mrs. Herbert Druce (niveum × bellatulum), also in fine condition.

Messrs. Hugh Low and Co., Bush Hill Park, also sent a brilliant little group, containing a fine example of Cattleya bicolor, bearing six spikes and an aggregate of 34 flowers, some good C. Grossii and C. Gaskelliana, C. Lueddemamaiana striata, some well-flowered Dendrobium formosum and D. Phalænopsis, Zygopetalum maxillare, Oncidium Forbesii, O. microchilum, &c.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Royal Botanic Gardens, Old Trafford, on September 6th, in connection with the Dahlia Show, and brought together a few choice Orchids, the time of year not being favourable to a large display.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), staged a group of excellent plants, including a number of showy Lælio-cattleyas and other hybrids, a Silver Medal being awarded.

Dr. Hodgkinson, Wilmslow (gr. Mr. Woore), exhibited Cattleya Gaskelliana Hodgkinsoni, a very beautiful variety, having white sepals and petals, and the front of the lip crimson. A First-class Certificate was awarded.

W. Farrer, Esq., Leyburn, Yorks (gr. Mr. Carnell), exhibited Cypripedium × leyburnense, a richly coloured hybrid of good shape, derived from C. × T. B. Heywood × C. Charlesworthii, to which an Award of Merit was given.

Mrs. Gratrix, Whalley Range (gr. Mr. G. Cypher), also received an Award of Merit for the handsome Cypripedium × Milo Westonbirt var.

ORCHIDS AT DUSSELDORF.

AN Orchid exhibition has just been held at Düsseldorf, on the Rhine. The chief exhibits came "naturally," so says the "Kölniscne Volkzeitung," from abroad, as the cultivation of Orchids has not yet been so systematically taken up in the Fatherland as in England, France and Belgium. These three countries have sent some very valuable exhibits. The chief German collection came from the largest Orchid cultivator in the Empire, Herr Otto Beyrodt, of Berlin. Baron von Fürstenberg, who lives near Düsseldorf, and the Grand Duke of Baden were among the contributors.—*Journal of Horticulture.*

A correspondent of the *Gardener's Chronicle* remarks that the promoters of the Orchid display held at the Düsseldorf International Exhibition, on September 3rd to 6th may be congratulated on the result of their efforts, for there was a splendid collection of Orchids exhibited. The display showed how hybrid Cattleyas and Lælio-cattleyas are contributing to make Orchid flowers more numerous in autumn than they have ever been at that season. From the amateurs came several very fine groups staged with good effect.

Baron Fürstenberg, Mintaris, near Düsseldorf, staged a fine group of showy varieties as well as a collection of botanical species, among the plants noted being two very fine plants of Lælio-cattleya × elegans Turneri, L.-c. × bletchleyensis, Cypripedium Chamberlainianum, Cattleya × Iris, Phalænopsis amabilis and its variety Rimestadiana, P. rosea, Epidendrum cochleatum, Rodriguezia decora, Pachystoma Thomsonianum, &c.

M. Firmin Lambeau, Brussels, sent a grand collection, including Cattleya × Harrisoniana alba, C. Mossiæ alba, C. × Pittiana, C. × Atalanta, C. Gaskelliana alba, Lælio-cattleya × bletchleyensis, L.-c. × Admiral Dewey, Arachnanthe Lowii, a very fine plant of Miltonia vexillaria, Cypripedium × Frau Ida Brandt, C. × memoria Moensii, &c.

The Marquis de Wavrin, Ghent, sent a fine specimen of Lælio-cattleya × elegans, and a grand plant and good variety of Vanda cœrulea.

Mr. H. C. Hacke, Baarn, Holland, had a small collection, comprising Vanda cœrulea, Calanthe veratrifolia, good Cypripediums, Lælio-cattleyas, &c.

In the trade groups, for competition, Mr. A. A. Peeters, Brussels, staged a grand collection of hybrids, to which an extra prize was given. Included in the group were Cattleya × Hardyana, C. × Ella, C. × Pittiana var. Kronprinz, Lælio-cattleya × eximia, L.-c. × Alcides, L.-c. × Admiral Dewey, L.-c. × elegans. At one end of the group was a batch of Cypripedium hybrids of the Rothschildianum type, and at the other end twelve very fine plants of Vanda cœrulea.

M. Chas. Maron, Brunoy, France, obtained the second prize for a good group of showy hybrids, including plants of the Lælio-cattleya × callistoglossa, × eximia, × Adonis, and × Henry Greenwood types.

M. Maurice Verdonck, Ghent, was third with a group including Houlletia Brocklehurstiana, Vanda cœrulea, Odontoglossum grande, O. × Harryano-crispum, Cattleya Harrisoniana, &c. Messrs. Draps Dom, Brussels, and Messrs. Wolf, Düsseldorf, each sent good collections of Cypripediums.

The non-competitive groups were very good. Mr. Otto Beyrodt, Marienfelde, Berlin, covered a large space with a magnificent display of popular varieties, such as Vanda cœrulea, Odontoglossum grande, Oncidium varicosum, Cypripedium × œnanthum, Cattleya Harrisoniana alba, C. gigas, &c. It also contained a magnificent variety, called C. gigas Imperator, the flower of which measured 10 inches across the petals, to which a special prize was awarded.

Messrs. Charlesworth & Co., Bradford, England, staged a very choice group, which was awarded a Silver Vase, to be specially made and decorated. The group contained three plants of the handsome Cattleya × Iris, C. × Chamberlainiana, C. × Vulcan, Lælio-cattleya × bletchleyensis, L.-c. × luminosa, L.-c. × Professor Fritz Röber, Brassocattleya × Madame Chas. Maron, Cypripedium × Milo, C. × Gravesiæ, C. × Frau Ida Brandt, C. × Mons. F. Lambeau, Bullophyllum Lobbii, Cycnoches chlorochilon, &c.

Messrs. Hugh Low & Co., Enfield, London, exhibited a group of well-flowered plants of Cattleya Dowiana aurea, C. Gaskelliana, C. Harrisoniana, Dendrobium Phalænopsis, Odontoglossum grande, &c.

A later issue supplies some further particulars by M. Maurice Verdonck, of Ghent. It appears that M. Peeters, of Brussels, was the only exhibitor in the class for one hundred varieties. In Class 10, for a collection of sixty Cattleyas, Lælias, and Lælio-cattleyas, the first prize was won by M. Ch.

Maron, Brunoy. In Class 4, for a collection of fifty varieties of Orchids, M. Maurice Verdonck, of Ghent, was awarded the first prize, the same exhibitor gaining a first prize for a collection of twenty Orchids of botanical interest, and a second prize for twenty-five Orchids (distinct varieties) in flower. The first prize in Class 14 for a collection of thirty Cypripediums and Selenipediums was awarded to M. Draps-Dom, of Laeken, near Brussels. M. Peeters gained an extra prize for a group of Cypripediums, the first prize for a group of Vanda cœrulea, and four first prizes for specimen Orchids, while M. Ch. Maron also gained first and second prizes for specimen Orchids (their names not being given).

RODRIGUEZIA VENUSTA.

THIS beautiful species is now flowering profusely in several collections, but not always under its correct name, and it would appear that in some way an importation has been distributed either unnamed or wrongly named, for we have met with it labelled both R. fragrans and R. candida, which species are quite distinct. The fact is R. venusta seems to have been largely lost sight of in gardens during recent years. It was originally described by Lindley, in 1837, under the name of Burlingtonia venusta, from a Brazilian drawing made by Descourtilz (*Bot. Reg.*, xxiii., sub. t. 1927), and afterwards figured in the *Sertum Orchidaceum* (t. 2) from the same source. Lindley remarked:—"This beautiful species is remarkable for the delicious odour which its flowers exhale of Jonquil or of some Water-lily. It grows among the topmost branches of the Cedrela, in the districts of Morro-Quémado and Macahé, and near the city of Bom Jesus de Bananal, blossoming in October." It is not quite certain when it was introduced to cultivation, but a few flowers are preserved in Lindley's Herbarium, which were received from Messrs. Rollisson, of Tooting, in May, 1846. In 1863 Reichenbach changed the name to Rodriguezia venusta, on the ground that the genus Burlingtonia was not distinct (*Walp. Ann.*, vi., p. 694), hence the name which it at present bears. The species is extremely floriferous, and there are three plants now flowering at Kew, in baskets, two of which bear each over twenty spikes and the third over three dozen, while Lindley, when originally describing the species, remarked—it "may be literally said to sink beneath its long heavy clusters of snow-white blossoms just tinged with pink." It is a very beautiful, floriferous, and fragrant species, and its nearest ally is the equally beautiful R. pubescens, a plant which was figured at page 337 of the first volume of this work. It should be grown in baskets in a light position in the Cattleya house.

R. A. R.

CYMBIDIUM × WINNIANUM.

THERE has long been a doubt about the parentage of Cymbidium × Winnianum, and the question has at length been brought forward by Mr. W. H. Young, Clare Lawn, East Sheen, in a recent issue of the *Gardeners' Magazine*, in a paper on Hybrid Cymbidiums. He alludes to C. × Winnianum as "one whose parents, in my (and others) opinion have under some misapprehension been wrongly given. It was raised in the collection of Mr. Charles Winn, of Selly Hill, Birmingham, reputedly from C. giganteum and C. eburneum, and a plant shown by Messrs. Sander & Sons on November 1, 1892, secured the premier award. Since then two

Fig. 45. CYMBIDIUM × WINNIANUM.

others, which, on comparison, have proved identical, have been flowered and named, though in their case the parents are different. C. Holmesii was raised by Mr. W. Holmes, of Timperley, from C. Mastersianum and C. giganteum; and the other, said to be the reverse cross, named C. Mantinii, was raised by Mr. G. Mantin, in France. Mr. Holmes kindly sent me a spike from his plant, and on comparing it with our C. Winnianum, in flower at the same time, could detect no difference, and therefore I conclude that a hybrid from C. giganteum and eburneum has yet to appear. The plants produce long, narrow leaves from medium-sized spherical bulbs,

the scapes usually carrying from six to ten flowers, which have pale greenish-yellow or straw-coloured sepals and petals, and the lip having a few reddish-brown spots and lines near the apex" (*Gard. Mag.*, 1904, p. 562). Curiously enough, the plant was described in the very first issue of this work (vol. i., p. 22), and figured in the same volume (p. 361, fig. 18). We were rather puzzled at the time with the characters of the hybrid, and remarked: "The plant bears a considerable resemblance to C. giganteum, but the shape of the flower is somewhat modified, and the colour of the sepals and petals pale greenish-yellow, or nearly straw-coloured." The influence of C. eburneum was not particularly obvious, but the record seemed sufficiently precise, and we accepted it. But the later records confirm the suspicion, and the characters of the hybrid are much more in accordance with the theory that C. Mastersianum was the pollen parent, and Mr. Young has had the advantage of being able to compare the hybrids mentioned side by side in a living state, which seems conclusive. It may be added that a coloured figure of this hybrid has appeared in *Reichenbachia* (ser. 2, ii., p. 61, t. 75), and that C. × Mantinii was figured in the present work two years ago (x., p. 361, fig. 37).

THE DAY COLLECTION OF ORCHID DRAWINGS.

IT is well known that the late John Day, Esq., during his lifetime, made a fine collection of Orchid drawings, which were retained by him when his collections were sold, and that after his death they were retained in the possession of his sister, Mrs. Wolstenholme. In figuring Dendrobium Williamsoni in the last issue of the *Botanical Magazine* (t. 7974), Mr. Hemsley makes an interesting allusion to the collection. Speaking of the history of the plant in question, as being discovered in Assam by Mr. W. J. Williamson, a nephew of Mr. Day, to whom a living plant was sent, which flowered in the latter gentleman's notable collection in 1869, and was described by Reichenbach, he remarks that "in March, 1887, an unnamed plant flowered at Kew, and Mr. R. A. Rolfe identified it with Dendrobium Williamsoni from Reichenbach's description, but the type being locked up at Vienna, absolute certainty was unattainable. In 1902, Mrs. Wolstenholme, sister of the late Mr. Day, presented that gentleman's most valuable collection of some thousands of drawings of cultivated Orchids, and Mr. Rolfe's identification of the plant was confirmed by a drawing of the original D. Williamsoni. It may be added here that Day's drawings include a considerable number of the types of Reichenbach's species founded on cultivated specimens, so that the senseless provisions of his will are, to some extent, nullified."

ZYGOPETALUM × CLAYI.

Does Zygopetalum × Clayi occur wild? As is well known, it is a hybrid which was raised in the collection of Col. Clay, of Birkenhead, from *Z.* maxillare and *Z.* crinitum, and flowered for the first time in cultivation in 1877. But in 1889 appeared the following record of a plant sent for determination to a meeting of the R.H.S., held on March 26th of that year:—"Zygopetalum sp. imported, from T. G. H. Eley, Esq., Hatcham. Mr. O'Brien said this was identical with a form of *Z.* × Clayi raised in this country, and was doubtless a natural hybrid of the same parentage" (*Journ. R. Hort. Soc.*, xi., Proc. p. 44). The question occurs whether this determination is correct, for we have several times met with the plant incorrectly named, once quite recently. Does the plant still exist? or, was a specimen preserved? If the record is correct it is very interesting, but one's faith is shaken by meeting with ordinary *Z.* Mackayi labelled *Z.* × Clayi on two or three occasions. The moral seems to be that in the case of such important records vouchers should be kept; in other words that flowers should be dried and preserved for future reference.

R. A. Rolfe.

ORCHIDS IN BASKETS.

Baskets have long been favourite receptacles for growing Orchids in, and although not so much used, perhaps, as formerly, they are indispensable to a mixed collection. We seldom see the large baskets, made of hazel rods or other lasting wood, 2ft. or more across, that were used for the cultivation of large heavy Vandas or Aërides a couple of decades ago. They had a fine appearance and the plants did remarkably well in them, but they were apt to harbour insects, and did not last long enough in the moist heat of an Orchid house, so large pots have taken their place.

The well-known teak basket, in its various sizes, is a capital receptacle for all Orchids of slender growth and pendant spikes of flower. Burlingtonias, Cœlogynes, Dendrobiums, of the Pierardi and Devonianum class, Odontoglossum citrosmum, Masdevallias Chimæra and Backhousiana, small Angræcums and Phalænopses are only a few of the many that may be so grown, while the basket is often used to bring weak or unhealthy specimens back to a vigorous condition. Owing to the freedom with which air enters the compost, the roots dry regularly, and the plants rapidly improve in health.

The wire basket is not so much used as the wooden article, but it is excellent for Orchids that push their spikes down through the compost instead of upwards. Stanhopeas and Acinetas are the most generally

known of these. Wire baskets should be very stoutly made, those patterns having a wide top and narrowing below being most suitable, as they allow a free passage for the flower spikes. Large lumps of burnt clay, or ballast, as it is termed, is superior to crocks for laying in bottom of these, especially for baskets having a large mesh, as, owing to their size, they cannot slip through, while the make-up is, of course, lighter when these are used.

Sphagnum moss enters more largely than peat into the compost for basket plants. It is more to the liking of delicate rooting plants, and has no earthy particles to silt through and litter up the paths. In suspending the baskets these should never depend from eyes screwed into the rafters; there should always be a rod provided running from end to end of the house. This prevents drip from condensed moisture running into the plants. Again they should always be hung over the paths, never over other plants, or when they are watered the drip will injure the latter.—H. R. R. in *Journal of Horticulture*.

ONCIDIUM TIGRINUM UNGUICULATUM.

AT a meeting of the Newport Horticultural Society in February last Mr. George Melvin, gardener to Colonel Charles Pfaff, South Framingham, Mass., exhibited a superb specimen of Oncidium tigrinum unguiculatum grown in a 9-inch pan. The plant had three spikes each over five feet long, these spikes carrying one hundred and fifty flowers. If this plant can be taken as an example of what can be done with this variety of Oncidium it certainly should find a place in every collection of Orchids. This variety is somewhat smaller in flower than tigrinum; in colour it is pale green speckled with crimson, lip clear yellow, a native of Mexico. Mr. Melvin was awarded the society's silver medal, and by vote of the society the plant was photographed, one of which is to be hung in the hall where the society meets. This plant was awarded the silver medal on this occasion, and received the silver medal of the Massachusetts Horticultural Society last year.—*American Gardening*, 1904, p. 605, with a figure showing part of an inflorescence.

DENDROBIUM FORMOSUM GIGANTEUM.

WHERE there are facilities for fruit forcing, especially a Fig house where the Figs are grown in pots, and the roof is screened with little or no shading whatever, here, in the hot humid atmosphere during the hottest months of the year, the Dendrobiums make their growth far more satisfactorily than is found to be the case in the most up-to-date erected Orchid house. During the resting season cooler and drier conditions must be given.

From the above it will be apparent that the writer is satisfied of the well-nigh impossibility of inducing this species to continue in vigorous health unless a very light position, as well as a warm one, can be provided. The repotting is best done when starting the plants into growth in the early spring, but where good material is used in the potting compost, the plants will not require repotting very often, but the surface moss dies in the resting season, and therefore top-dressing is an annual requirement. Importations arrive in the spring, and they are then procured for a moderate outlay. It is more desirable to secure imported plants than to have to deal with established or semi-established plants. A change in the condition of culture or the least check is undesirable.—*Journal of Horticulture.*

ORCHIDS IN SEASON.

Two very beautiful hybrids are sent from the collection of the Right Hon. J. Chamberlain, M.P., Highbury, Birmingham. Cattleya × Niobe superba is a particularly fine form raised in the collection from C. Mendelii ♀ and C. Aclandiæ ♂, and thus the reverse of the original hybrid, of which, however, it must be considered a variety. It has the characteristic shape and strongly three-lobed lip, with comparatively small side lobes, and the front lobe and petals very broad, while in colour it most resembles C. Mendelii. C. × Iris is a most beautiful flower, having the sepals and petals rich orange-yellow, and the bicolor-like lip rich purple. The combination of C. bicolor and C. Dowiana has proved exceptionally fortunate.

A three-flowered inflorescence of the very pretty hybrid exhibited by J. Colman, Esq., Gatton Park, Reigate, at the R.H.S. meeting on September 20th, under the name of Cattleya × intermedio-gigas, is sent by Mr. Bound. Its parentage is given as C. × intermedia × gigas, and the seed is said to have been sown on June 26th, 1901, so that the flowering stage has been reached with exceptional rapidity for a Cattleya. There is a puzzling resemblance in the flowers to C. × Minucia, in which C. Loddigesii was the seed parent, and the white of C. intermedia is completely lost, so that we should like to see the record confirmed. The plant is not yet fully developed.

A very pretty light form of Oncidium Forbesii in sent from the collection of Arthur Dodd, Esq., Aintree, near Liverpool, in which the markings are unusually pale, and thus the flower appears much more yellow than usual. It was a question at first whether the plant might not be a natural hybrid, but the characters generally are those of O. Forbesii, to which for the present at least it must be referred. It is a very charming form.

Two handsome Paphiopedilums are sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, by Mr. Smith. P. ×

tessellatum porphyreum is a charming little hybrid derived from P. barbatum and P. concolor, and the scape sent is twin-flowered, but the upper flower not yet expanded. P. × Wottoni (P. callosum × bellatulum), is much larger, having the dorsal sepal nearly 2½ inches and the petals over an inch broad, the flower being particularly well developed, and, like the preceding, very rich in colour. They are excellent examples of good culture.

Mr. Smith also states that they have a fine plant of Oncidium ornithorynchum album now flowering in the collection, bearing fourteen spikes, several of them over two feet long, and well branched. It is evidently a very handsome specimen.

NOTES.

A MEETING of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on October 18th next, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

Meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on October 13th and 27th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

Mr. W. F. Oliver, for the last six years gardener and Orchid grower to Mrs. Grogan, Slaney Park, Baltinglass, Co. Wicklow, and previously with C. Winn, Esq., Selly Hill, Birmingham, has been appointed gardener to Col. Crosby, Shadbally Hall, Queen's County.

Messrs. Stanley Ashton and Co., of Southgate, write to announce that they have dissolved partnership by mutual consent, Mr. F. W. Ashton retiring from the firm. The business will, however, be carried on as before by Mr. H. Stanley, in co-partnership with A. Hassall, and they will discharge all debts due by and collect all assets due to the firm. The change in the title of the firm dates from October 1st, after which it will trade under the style of Stanley and Co. It is added that Mr. F. W. Ashton will give the new firm the benefit of his life-long experience in a responsible position.

The September number of the *Dictionnaire Iconographique des Orchidées*, just received, contains figures of the following Orchids:—Brassavola Perrini, Cattleya × Sapho, C. × Saint-Gilles, Cypripedium × aureum var. Marie Closon, C. × Chapmani superbum, Dendrobium aggregatum, D. fimbriatum oculatum, Lycaste cruenta, Lælia × Gratrixiæ, Maxillaria porphyrostele, Oncidium concolor, Phaius maculatus, and Vanilla Humblotii. We observe that the name of Prof. Cogniaux no longer appears on

the work, and it is requested that all communications relating to the publication or administration of the work be sent to M. Goossens, Avenue Walkiers, 68, Anderghem, Brussels.

From the *Chronique Orchidéene*, a supplement to the same work, we learn that two very interesting African species of Vanilla are in cultivation at the Jardin Colonial, Laeken, and the Jardin Botanique de l'Etat, Brussels. These are V. grandifolia ("grandiflora"), Lindl., and V. Lujæ, Wildem., both introduced from the Congo district, and not known to be in cultivation elsewhere.

The contents of the May number, a notice of which appears to have been accidentally omitted from our pages are as follows:—Cattleya × Cogniauxii, C. × Enid, C. × Fabia var. Vigeriana, C. × F. W. Wigan, C. × Imperator, C. × Peëtersii, C. × Pittiana, C. × Rembrandt, Cypripedium × Memoria-Fournieri, Dendrobium Cœlogyne, Lælio-cattleya × Digbyano-Mossiæ var. splendens, Oncidium superbiens, and Stauropsis fasciata.

Two curiously abnormal flowers of Paphiopedilum barbatum are sent by W. Muir, Esq., Linlithgow. One of them has the column replaced by two petal-like bodies, half as broad and nearly as long as the ordinary petals, which latter are present but shorter and broader than usual, while the two sepals and lip are also present. The other may be described as a crippled monster, the lip being partially confluent with the petal and sepal on one side of the flower, while those on the other side are free, but not normal.

A batch of the Brazilian Miltonias have been making a fine display in the Kew collection, and include good examples of M. spectabilis Moreliana, M. Clowesii, M. Regnellii, M. candida, together with the natural hybrids M. × castanea, M. × Binoti, and M. × Cogniauxiæ var. bicolor. Some of them are represented by two or three examples, and most of them carried numerous spikes, the whole forming a very interesting group.

Other interesting things in the collection are a plant of the Dove Orchid, Peristeria elata, bearing four fine spikes, two forms of the remarkable natural hybrid Catasetums × splendens, the rare C. Trulla, C. quadridens, two plants of the charming little Habenaria carnea, and quite a number of botanical rarities, to say nothing of the usual showy species and a number of hybrids, which are making a good show.

It may be interesting also to note that female flowers of Catasetum Naso and Cycnoches pentadactylon have recently appeared in the collection.

ORCHID PORTRAITS.

ANGRÆCUM INFUNDIBULARE.—*Journ. Hort.*, 1904, ii., p. 219, with fig.; *Gard. Mag.*, 1904, pp. 627, 629, with fig.

BRASSAVOLA DIGBYANA.—*Wien Ill. Gart.-Zeit.*, 1904, pp. 305, 307, with fig.

BRASSOCATTLEYA × THORNTONI.—*Wien Ill. Gart.-Zeit.*, 1904, pp. 304, 307, with fig.

CATTLEYA WARSCEWICZII FRAU MELANIE BEYRODT.—*Journ. Hort.*, 1904, ii., pp. 256, 257, with fig.

CIRRHOPETALUM PICTURATUM.—*Journ. Hort.*, 1904, ii., p. 235, with fig.

CYPRIPEDIUM × SOUTHGATENSE.—*Journ. Hort.*, 1904, ii., p. 277, with fig.

DENDROBIUM WILLIAMSONI, Day & Rchb. f.—*Bot. Mag.*, t. 7974.

ODONTOGLOSSUM CRISPUM OAKFIELD SUNRISE.—*Journ. Hort.*, 1904, ii., p. 185, with fig.

ONCIDIUM TIGRINUM UNGUICULATUM.—*Amer. Gard.*, 1904, p. 605, with fig.

PAPHIOPEDILUM CHARLESWORTHII ALBUM.—*Amer. Gard.*, 1904, p. 561, with fig.

SATYRIUM AURANTIACUM, Ware.—*Journ. Hort.*, 1904, ii., pp. 256, 258, with fig.—This is S. coriifolium, Swartz.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

E. T. Many thanks. The seed has been duly forwarded, and we hope to have a report of its successful germination in due course.

H. G. A. A good light form of Odontoglossum × Coradinei, the natural hybrid between O. crispum and O. Lindleyanum.

I. B. Mormodes pardinum var. unicolor and Pleurothallis rubens. The latter name seems highly inappropriate for a light green flower, but owes its origin to the tint of the dried flowers from which the species was described by Lindley.

F. L. The hybrid between Cattleya Dowiana and C. Eldorado is known as C. × Ingramiæ.

E. F. C. This particular point has given us a great deal of trouble, and we will report on the matter presently.

J. S. Unavoidably postponed till next month.

Catalogue received. Price list of Orchids for 1904 of M. Henri van der Straeten, Bruges, Belgium, containing a selection of popular Orchids.

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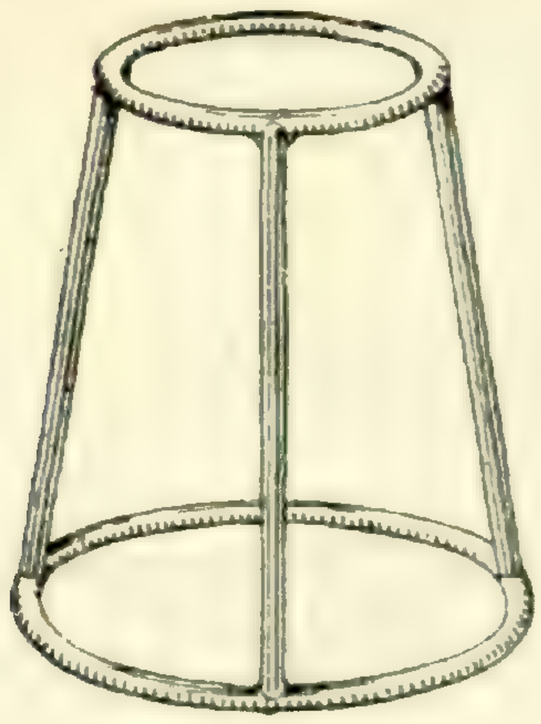

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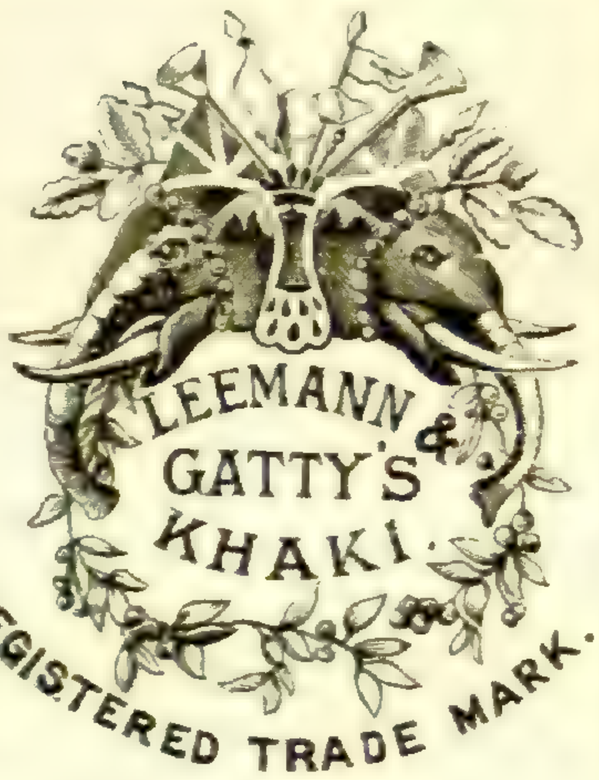

NOTICE TO READERS OF

THE ORCHID REVIEW

A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

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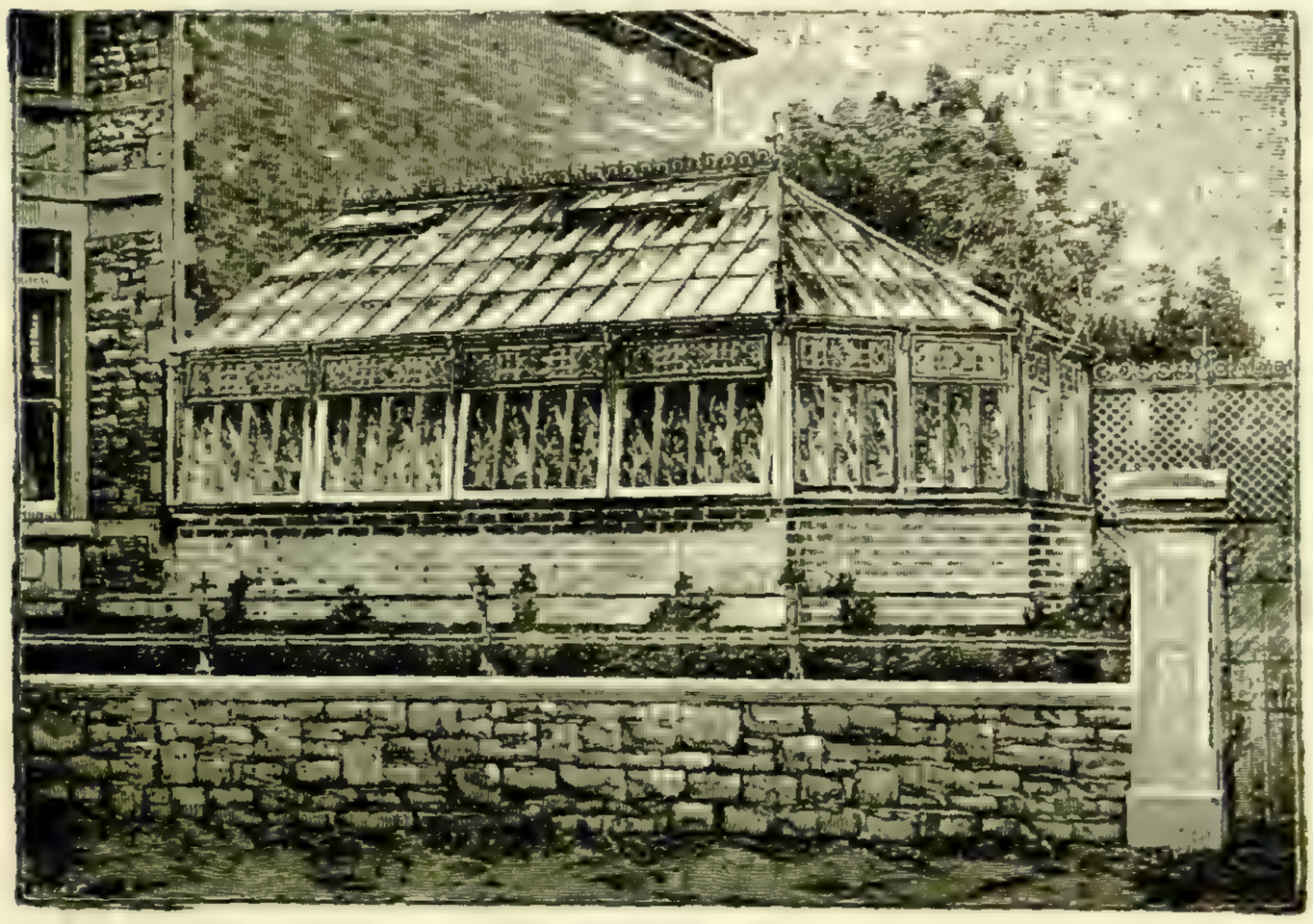

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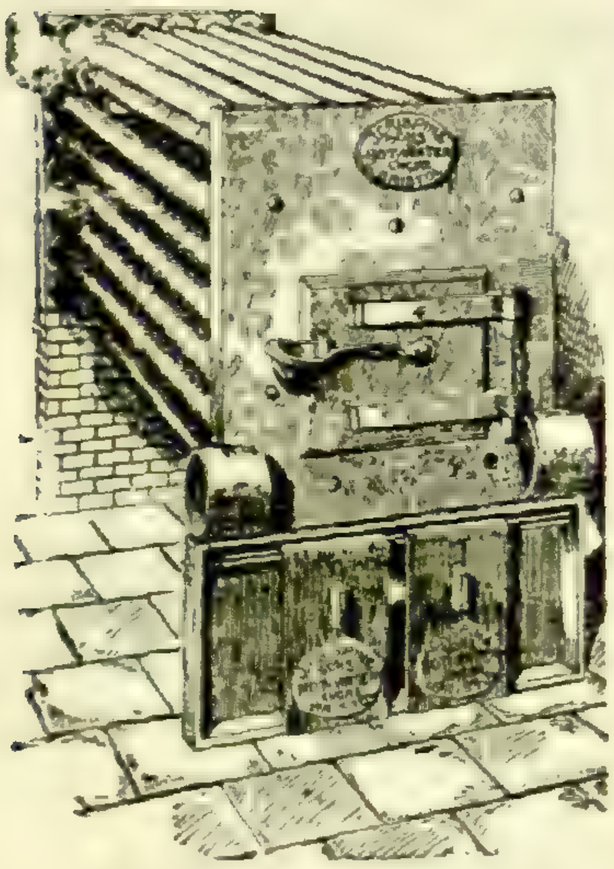

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VOL. XII.] NOVEMBER, 1904. [No. 143.

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An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XII.] *NOVEMBER*, 1904. [No. 143.

NOTICE OF BOOK.

"BOG-TROTTING FOR ORCHIDS." By Grace Greylock Niles. With illustrations from Nature. G. P. Putnam's Sons, New York and London, The Knickerbocker Press, 1904, 8vo. pp. 310, with seventy-two photographic illustrations.

This is a charming volume. "During many seasons spent in the Hoosac Valley," the authoress remarks, "it has been a source of great pleasure to me to trace mountain streams through moss-grown ravines to their beginning, and to explore the almost inaccessible recesses of the sphagnous boglands. I have found it a delight to study the Orchids, ferns, and various flowers sheltered in their homes, far removed from the roadside. I seldom follow any well-worn forest paths, for I have observed that the rarer plants do not dwell where the foot of man or the grazing herds have wandered. So it happens that the walks described in these pages lead mostly across lots, over hills and mountains, and through swamps."

And the locality? "The Hoosac Valley lies in the heart of the irregular Taconic Mountains, and extends over the south-western part of Bennington County, Vermont, and the north-western part of Berkshire County, Massachusetts. The region has a soil peculiarly adapted to the origin and growths of Orchids. Here along the numerous streams and in the little vales are many unfathomable peat and marl beds which are veritable Orchid gardens. The valley seems to be the common ground where rare plants from the North and South, as well as the migrating species from the East and West, meet and overlap each other."

The excursions recorded were made particularly in search of Orchids, but the authoress remarks: "I have collected and observed all other flowers of interest which grow in the region which I have traversed, for the purpose of showing the natural environments of Orchids; and introducing their near neighbours of swamp, forest, and rocky pasture land."

We have allowed the authoress to introduce herself, and may now proceed to indicate the nature of the work, pointing out at the commencement that of the seventy-one species of Orchids found in the north-eastern

United States and Canada from forty to forty-two are found in the Hoosac Valley, including five species of Cypripedium or "Mocassin Flower."

The "rambles" extended through three seasons, and the authoress describes the plants among their natural surroundings, as she met with them, in a very interesting way. At the end of the work is a classified Appendix of the New England Orchids, with the descriptions, and notes showing the geographical range of the species. And if the information in the body of the work appears rather scattered—as is unavoidable from the nature of the arrangement—there is a very copious index, not only to the Orchids, but to other details, so that anyone seeking information about any particular species, or other object of interest mentioned in the work, can turn to it at once by means of the index.

The photographic illustrations are excellent, and those executed in colours by the three-colour process are so graphic that no one could possibly fail to identify them. The photographs were taken, part by Miss Katherine Lewers, and part by the authoress, the colouring being done by the latter. The frontispiece shows a charming group, in colour, of the pink Mocassin-flower, Cypripedium acaule, which is again figured on a later page, showing the details of the flower. Opposite page 78 is a picture showing a large colony of the white-petalled Lady's Slipper, C. Reginæ, which plant is figured larger at page 24 (both in colour), and the authoress remarks: "Few poets have ever sung the praises of the Queen of the Mocassin-Flowers, although a lovelier flower never beckoned to poetic fancy." Underneath the former picture is inscribed:—

> "'*Rushes tilting their burnished spears,*
> *These are her courtly cavaliers.*
> *Heart of my heart, we forswear the rose,*
> *We have been where the lady slipper grows.*'
>
> CLINTON SCOLLARD, *In the Heart of June.*"

The authoress remarks that the mocassin flowers do not appear to multiply in many swamps. "For years now I have noticed large groups of the showy Lady's Slippers growing in Rattlesnake Swamp, near Lloyd Spring, and I can find little increase in the number of plants, or the size of the old snarl of roots. In fact, they seem to be diminishing in numbers. There is an old colony in this region that has stood for about seventy-five years, much the same in size, on the authority of the old inhabitants of this neighbourhood. It stands to-day among the shrub-like willows and swamp maples, at the foot of little scrub pines and dwarf double spruces, hidden from the sight of travellers in the path by a prostrate tree-trunk and decaying primæval pine stump. I observed this colony years ago, and this season it appeared the same to me, occupying a space about two feet square. I

counted forty-two full-grown flowers, many stems bearing two blossoms. This indeed was one of the most charming sights, suggesting the luxuriance of the humid climate of the tropics." This is the group figured. Yet they do increase, for a few lines lower we read: "A unique row of seedlings of this species (Cyripedium Reginæ) too young to blossom, and reminding one of a row of barn swallows, not yet sufficiently matured to fly, grew along a moss-covered pine log, near the parent colony of plants."

Other species figured are C. hirsutum (pubescens), C. parviflorum, and C. arietinum, together with C. candidum and C. montanum, which do not occur in the Hoosac Valley. Of other genera the following are figured in colour: Orchis spectabilis, Habenaria Hookeriana, H. grandiflora, H. hyperborea, H. dilatata, H. orbiculata, Pogonia ophioglossoides, Limodorum tuberosum, Arethusa bulbosa, "a rare, shy Orchid found in company with the rose Pogonia and grass Pink in the heart of sphagnous swamps," and Calypso bulbosa. The twenty-four coloured plates are all Orchids, and the remainder include Orchids and other flowers, as well as some charming views.

From the Appendix we gather that the authoress favours that particular school of nomenclature which can write such a name as "Corallorhiza Corallorhiza (Linnæus) Karst, 1753—1880—1883" (whatever it may mean), without compunction. We notice one "new species," at p. 258, "Habenaria Andrewseii White n. sp. (per letter), 1903," a natural hybrid from H. psycodes × lacera, which is said to be "flourishing and increasing in numbers in its special haunts." It is figured from a photograph.

It is a book to be read, and as the publishers very well observe: "Miss Niles is an enthusiastic bog-trotter, and she describes in a very charming way plant life in the swamps of the Hoosac Valley, a region extending over parts of Vermont, New York, and Massachusetts."

DACTYLOSTALIX RINGENS.

AN interesting Japanese Orchid has recently been described and figured by Finet, as a new genus, under the name of Pergamena uniflora (*Bull. Soc. Bot. France*, xlvii. p. 263, t. 8). The author describes it as very near Calypso, of which it has entirely the habit, and part of the characters, differing chiefly in having a flat, not concave lip, and a creeping rhizome instead of a pseudobulb. It is based upon a plant collected by the Rev. Père Faurie, in the forests of Kayashimoe, at 1500 mètres altitude, in June, 1894. I find that the plant is figured in the Japanese work, *Somoku Zusetsu* (xviii., t. 44) under the native names of "Hitcha-ran," and "Ichiyō-ran." The latter name signifies "One-leaved Orchid." It is labelled

"Orchideæ," but no clue to its genus is given, and Franchet & Savatier do not carry the determination any further (*Enum. Pl. Jap.*, ii., p. 684). The plant has recently been collected at Shidzu, in Nikko, by H. Takeda, in July, 1903. In looking up its history I find that it was described by Reichenbach as long ago as 1876, as a new genus, under the name of Dactylostalix ringens (*Bot. Zeit.*, 1876, p. 74), from specimens collected at Kii, Japan, by Reïn. The author described it as intermediate between Eulophia and Cremastra, which probably led Bentham, who had not seen the plant, to reduce it to Cremastra (*Gen. Plant.* iii., p. 538), with which, however, it has no affinity. It is clearly an ally of Calypso, and as a matter of fact Maximowicz referred it to that genus, under the name of C. japonica, but I have not succeeded in finding a description, and believe that the name was never published. The ticket is inscribed "Maximowicz, Iter secundum. Japonica; Nippon, Fudyi Yama, 1864, leg. Tschonoski." The differences pointed out appear to separate it from Calypso, which, however, is its nearest affinity. The plant is not yet known in cultivation, but it is interesting to bring together its very scattered history.

R. A. ROLFE.

ZYGOPETALUM MACKAII AND ITS ALLIES.

THE species that may be grouped under the above heading are very handsome winter-flowering plants, whose history, unfortunately, has been much confused; and as the plant in cultivation under the name of *Z.* Mackaii is not the true plant, which latter is now flowering very freely at Kew, it may be interesting to give the history of the question. It is one of those cases, like Phalænopsis amabilis and Phaius tuberculosus, where the names have been wrongly applied in gardens for so long a period that it is very difficult to get them rectified.

Zygopetalum Mackaii was originally described and figured in 1827 by Dr. William Hooker (*Bot. Mag.*, t. 2748), from materials received in February, 1827, from Mr. Mackay, of the Dublin College Botanic Gardens, who imported it from Brazil. The author remarked: "It is a plant of great beauty, and may be numbered among the most showy of the highly interesting family of Orchidaceous plants. It is so unlike in the structure of its flower to any described plant, that I have no hesitation in constituting of it a new genus." The generic name was given in allusion to the "union of the five petals at the base."

In 1830 it was figured in *Loddiges' Botanical Cabinet* (t. 1664), the author remarking: "We received this superb plant through the kindness of Mr. Frederick Warre, who collected it, with many more rare articles of this family, in Brazil."

A year later Lindley transferred the plant to Eulophia, under the name of Eulophia Mackaiana (*Bot. Reg.*, t. 1433), but he gave no reason for the change, and this introduced the first element of confusion into the question, for although *Z.* Mackaii, Hook., is given as a synonym, the plant figured is what was afterwards described as *Z.* intermedium, Lodd.

In 1833 Lindley reduced Eulophia Mackaiana as a synonym of *Z.* Mackaii, and at the same time added a variety crinitum (*Gen. and Sp. Orch.*, p. 187), which was based on *Z.* crinitum, *Lodd. Bot. Cab.*, t. 1687. This variety was afterwards figured in the *Botanical Magazine* (t. 3402), when Dr. Hooker added that this species seemed to be liable to considerable variation, and that the Eulophia Mackaiana of the *Botanical Register* appeared to be intermediate between the true *Z.* Mackaii and the variety now figured.

In 1838 a coloured plate of so-called *Z.* Mackaii appeared in *Paxton's Magazine of Botany* (iii., p. 97), but the plant figured is really *Z.* intermedium. It was drawn in the collection of Mr. Bowe, of Manchester, in October of the previous year. There is a note on the method of treatment adopted at Chatsworth, where the plants are said to grow satisfactorily,

In 1844 Lindley gave an enumeration of the species (*Bot. Reg.*, xxx., Misc., pp. 8-10), in which he treated *Z.* Mackaii, *Z.* intermedium, and *Z.* crinitum as three distinct species, remarking of *Z.* intermedium: "This is generally confounded in collections with *Z.* Mackaii, from which it is readily known by its downy labellum. It is perhaps the finest of the genus." *Z.* Mackaii, he remarked, was "known from all the genus by its blue-veined. perfectly smooth lip, and two-lobed crest. The blotches on the sepals and petals are somewhat smaller than in the other species." He, however, enumerated Eulophia Mackaiana as *Z.* Mackaii, and it is evident that he had not fully grasped the difference between it and *Z.* intermedium. The latter species seems to have been first characterised here (p. 9), though the name had previously appeared. Lindley cites "*Lodd. Cat.*, n. 1136," which may possibly refer to the second edition of a work entitled "*Orchideæ in the collection of Messrs. Conrad Loddiges & Sons, Hackney,*" which is said to have appeared in 1842. The earlier edition is undated, and *Z.* intermedium appears on page 19, n. 722, without any description.

In the paper just mentioned Lindley also described *Z.* brachypetalum (*l.c.*, p. 9), as a new Brazilian species which he had received from Mr. Waterhouse, of Halifax, in December, 1840. He described it as having "flowers most like those of *Z.* intermedium, but less than half the size." Four years later it received a Certificate of Merit from the Horticultural Society, when exhibited by M. de Jonghe, of Brussels. The report states: "This species was originally brought into notice by Mr. Waterhouse, of Halifax, in the year 1840. and is little known. It is one of the handsomest

of the species, having brownish sepals and petals, a little marbled with green, and a deep bluish-violet lip veined with white. The crest of the lip is clearly striped with blue, and the column is streaked with dull dark purple. M. de Jonghe stated that it had been found by his collector Libon, in 1847, on the Peak of Itabari, in the province of Minas, in Brazil." A woodcut of a flower was also given (*Journ. Hort. Soc., Lond.*, iv., Proc., pp. 11, 12, with fig.).

In 1855 Regel described *Z.* Mackayi var. parviflorum (*Ind. Sem. Hort. Petrop.* 1855, p. 22), and *Z.* M. var. pictum (*l.c.*, p. 23), in each case "*Z.* intermedium, Hort. Petrop." being cited as synonymous. The former he described as having flowers half as large as the type, being scarcely 1½ inches in diameter, and the latter as having flowers of the size of the genuine form, but the sepals and petals narrower, and the lip white, beautifully spotted with violet.

Z. Mackaii and *Z.* intermedium were by this time hopelessly confused, and when Reichenbach revised the genus in 1863 he made them synonymous (*Walp. Ann.*, vi., p. 661), remarking that they could not be separated by the glabrous and pubescent lips, as supposed by Lindley. The only two varieties admitted were those described by Regel, already mentioned, and *Z.* brachypetalum was admitted as a distinct species.

It may be interesting to add that Mr. Day's valuable collection of Orchid drawings also throws further light on the question. In December, 1863, a sketch of a flower from the collection of Mr. Basset was drawn by Mr. Day, and it is labelled "*Z.* Mackayi—or intermedium?" (*Coll. Draw.*, v., p. 65). In December, 1876, a coloured drawing of "*Z.* Mackayi" was made, to which is appended the note: "I bought this particular plant at Bishop Sumner's sale, some years since. It is a good ordinary variety, but nothing out of the common way—perhaps a little larger than the average." Both these figures belong to *Z.* intermedium, which it may be added is not otherwise illustrated in the collection.

There is also a drawing of a plant, made in October, 1885, "at Kew Gardens," and at first labelled *Z.* intermedium, but afterwards changed to *Z.* brachypetalum. in accordance with the following note: "Prof. Reichenbach saw this drawing in Sept., '86, and immediately exclaimed 'brachypetalum,' so I have altered it accordingly." We strongly suspect this was the "*Z.* intermedium, Hort. Petrop." which was given as a synonym of *Z.* Mackayi var. parviflorum, Regel.

More recently Reichenbach pointed out the confusion in which *Z.* intermedium had been involved (*Reichenbachia*, ser. 1, i., p. 37, t. 16), and acknowledged that the two species were confused in *Walpers Annales*, adding:—"For years *Z.* intermedium alone was to be found in gardens, but of recent years the Hookerian plant has appeared here and there."

This latter remark, we believe, was only partially correct, and we believe the following more nearly represents what has taken place.

The introduction of *Z.* Mackaii was followed by that of *Z.* crinitum and *Z.* intermedium, which were soon more or less confused with it, though the distinctness of *Z.* crinitum was ultimately recognised. *Z.* intermedium, however, got hopelessly confused, Lindley first figuring it as Eulophia Mackaiana, then reducing the latter to *Z.* Mackaii, finally admitting both as distinct without understanding their differences, or even correcting his previous error. The name *Z.* Mackaii had now been transferred from the original to the much finer species, which gradually replaced the original one, while usurping its name. Loddiges, who had correctly figured the original plant in 1830, and who was actually the "godfather" of *Z.* intermedium, in 1842 cited *Bot. Reg.*, t. 1433, as representing *Z.* Mackaii, evidently not recognising in it the plant to which he had stood sponsor, which it really was. Lindley, now knowing *Z.* Mackaii as the large flowered species, and having apparently forgotten all about the original one, actually re-named the latter *Z.* brachypetalum,—when two years later it was sent to him,—because of its shorter segments, and the effects of the confusion are still with us.

It is interesting to add that plants from Mr. Mackay's original stock are still cultivated at the Trinity College Botanic Gardens, Dublin, whence some have been distributed to other collections, and we have been able to compare these with the original figure and dried specimens, with which, of course, they are identical. The plant has certainly a very romantic history.

R. A. ROLFE.

ORCHIDS AT TRING PARK.

A LARGE and very interesting collection of Orchids is grown at Tring Park, Herts, the residence of the Right Hon. Lord Rothschild, which the writer has recently had the pleasure of seeing, and the following has been drawn up from a few hasty notes in the hope that they will prove interesting to readers of the *Orchid Review*.

The Phalænopsis house contains many very fine specimens, and the difficulty of growing this beautiful genus seems to have been entirely overcome. The long leathery leaves of P. Schilleriana were magnificent, and P. amabilis Rimestadiana is well represented. It was very interesting to see a nice batch of the remarkable P. Lowii in flower, and among other interesting plants may be mentioned the rare hybrids P. × Rothschildiana and P. × Cynthia. The plants are growing splendidly in teak-wood cylinders, the greater part of the compost consisting of sphagnum moss.

Some good forms of Dendrobium Phalænopsis were in flower, and their graceful arching sprays produced a fine effect. D. Wardianum is ripening off some strong growths. Various Bulbophyllums were hanging from the roof, among them being a large specimen of B. Ericssoni, and a well-flowered plant of B. Careyanum roseum. There are also numerous Megacliniums and Cirrhopetalums, a plant of the rare C. Rothschildianum looking the picture of health. The rare Angræcum Rothschildianum was still in flower. The collection contains numerous rarities, among those pointed out being the remarkable Angræcum infundibulare, which recently flowered, a plant of Trevoria chloris, one of the very few known in Europe, Vanda × Miss Joaquim, and V. teres alba. These terete-leaved Vandas seem to thrive here; also numerous Catasetums were exceptionally good, the fine C. Bungerothii being everything that could be desired. Calanthes are not much grown, the exception being C. Regnieri.

There is a splendid collection of Lælio-cattleyas, and good batches of C. Warscewiczii and C. Dowiana aurea are grown, some of the latter being in flower. A good batch of C. Lawrenceana was also noticèd, the plants being finishing up some strong growths. In another house Lælia anceps and its varieties were doing well, and throwing up a large number of spikes.

The collection of Masdevallias is a very fine one, and remarkably complete; in fact, it forms one of the features of the place, and is a special favourite with the Hon. Walter Rothschild. Many were in flower, among those noted being M. macrura, the remarkable M. muscosa, M. Reichenbachiana, M. nidifica, M. ventricularia, a well-flowered plant of M. Wendlandiana, with many others of botanical interest; also some showy hybrids, including M. × Rushtoni (igneu × racemosa), M. × Doris (triangularis × racemosa), M. Bocking Hybrid, &c. We noticed also some good plants of M. Chimæra,the rare M. Burbidgeana, M. venosa, M. bella, the remarkable M. trinema (Lowii), M. cucullata, the handsome M. rosea, &c., some of them being in flower. The same house contains representatives of the genus Stelis, Cryptophoranthus —C. Dayanus being flowering very freely—Restrepia and Pleurothallis, the latter including such fine species as P. Roezlii and P. scapha, while the pretty little Restrepia aspasicensia was in bloom. Some Odontoglossums were doing well, and included O. constrictum and a few O. crispum in flower.

These are only a few of the interesting features of this fine collection, the condition of which reflects great credit on the head gardener, Mr. Dye, and his Orchid grower, Mr. Warrior. It would repay a visit at any season of the year.

PAPHIOPEDILUM × MISS DAISY DRUCE.

THE annexed figure represents a very charming hybrid which has been raised in the collection of H. Druce, Esq., of St. John's Wood, by Mr. G. Walker, to whom we are indebted for the photograph reproduced and the following note:—"Cypripedium × Miss Daisy Druce (concolor Regnieri × Chamberlainianum). A pretty and much admired new hybrid, having flowers larger than a good C. Chamberlainianum, with broad, drooping petals. The dorsal sepal is a pleasing yellow with purple lines, and the pouch dotted all over with rose-purple. The flowers are borne as in C.

Fig. 46. PAPHIOPEDILUM × MISS DAISY DRUCE.

Chamberlainianum, several on a spike, opening consecutively, and lasting many weeks in perfection. The plant was in flower five months." The figure practically explains itself, except that the rose-purple dots on the lip are not shown, owing to the unfortunate fact that tints of the colour named come out practically white in a photograph. We at first took this plant for a form of P. × Eira, which was originally recorded as a hybrid from C. Chamberlainianum × C. concolor (*Gard. Chron.*, 1903, i., 108; *O. R.*, 1903, p. 82), but afterwards the parentage was given as Chamberlainianum ×

clarense (*O. R.*, 1904, p. 179), and Mr. Walker says that he saw this plant when exhibited at the last Temple Show, and it does not agree with his plant. *The Garden*, it may be added, confirms the parentage originally given, though omitting the name. It is one of those difficulties which are, unfortunately, too common among hybrid records, but the point may be cleared up hereafter. Whatever the correct name may be it is certainly a charming little plant, and a strong plant should be very effective.

The hybrids of P. Chamberlainianum are becoming rather numerous, now numbering upwards of twenty, and it is curious to notice how much they resemble this parent in habit, while the floral characters of this species are also well represented in the majority of them. The combinations with species of the P. concolor group have been felicitous, for the hybrids with P. niveum and P. bellatulum are also elegant little plants.

ORCHIDS AT DÜSSELDORF.

THE *Gardeners' Chronicle* reports that the last Orchid Exhibition held at Düsseldorf from October 20th to 23rd, in the connection with the Düsseldorf International Exhibition, was as successful as the two preceding ones. Exhibitors were numerous, and the sight of the beautiful hall was really grand.

Herr Otto Beyrodt, Berlin, Director of the Orchid Exhibitions, decorated an immense space with more than 500 plants, among which was a beautiful lot of fifty Cattleya Dowiana aurea in flower, also C. labiata, Oncidium varicosum Rogersii, Dendrobium Phalænopsis, Cypripediums, and Odontoglossum crispum. The jury awarded the highest prize of honour to this exhibit.

M. Peeters, Brussels was awarded a special prize of 600 marks for a magnificent group of seventy-five Cattleya and Lælia hybrids, including the very fine Cattleya × Hardyana alba, C. × Peetersii (C. × labiata × Hardyana), C. × Sir F. Wigan (C. Dowiana aurea × granulosa Schofieldiana, Lælio-cattleya × Imperator (C. Dowiana aurea × L.-c. × elegans Turneri), L.-c. × luminosa (L. tenebrosa × C. Dowiana aurea), and a magnificent hybrid of L.-c. × elegans × C. × Hardyana. M. Peeters also received a special prize for a magnificent pure white Cattleya labiata alba.

M. Ch. Maron, Brunoy, France, also received a special prize of 600 marks for a group of forty-five Cattleya and Lælia hybrids, among the more noteworthy being good Cattleya × Fabia Vigeriana (Dowiana aurea × labiata), C. Maroni (velutina × Dowiana aurea), and a fine variety of Lælio-cattleya × Truffautiana (L. tenebrosa × Dowiana aurea).

In a class for the finest Cattleya hybrid the first prize was awarded to M. Peeters, Brussels, for a wonderful variety of Cattleya × Peetersii with a perfectly-shaped flower of very dark colour, and having a dark velvet-coloured lip turning to black. The second prize was awarded to M. Ch. Maron, Brunoy, France, for a very fine Cattleya × Fabia var. Vigeriana.

For the best group of twelve Vanda cœrulea M. Peeters also obtained the first prize, and the second prize went to M. Beranck, of Paris.

Herr Baron Fürstenberg was awarded a first prize for twenty-five Orchids in flower, and a similar award for twenty botanical Orchids.

M. Lambeau, Brussels, secured the first prize for a very good group of Orchids, among which were the beautiful Cattleya Dowiana aurea, C. × Hardyana, C. × Peetersii, and Lælio-cattleya × luminosa. He also obtained the first prize for a collection of thirty Cypripediums, including C. insigne Sanderæ, C. × Frau Ida Brandt, and C. glancophyllum, together with second prizes for a well-flowered Cattleya × Wendlandiana, for Oncidium superbiens, and for Cypripedium × Minerva (superbiens × exul).

M. Théodore Pauwels, Meirelbeke, near Ghent, secured first prizes for a group of twenty-five Orchids, for the finest twelve Cattleya Dowiana aurea, and for the finest Vanda, this being a plant of Vanda cœrulea, bearing five strong spikes and an aggregate of seventy-one large and fully-developed flowers.

Mr. Karthaus, Potsdam, showed a very good group of fifty Dendrobium Phalænopsis, for which he was awarded the first prize.

Messrs. Duchesne Lanthoine & Co., Watermael, Brussels, secured the first prize for a group of fifty Orchids in flower, also first prizes for thirty Cypripediums, and for C. × Madame A. Bleu with three flowers on a spike; also a special prize for a fine Cattleya × Fabia var. Vigeriana.

Messrs. Charlesworth & Co., Heaton, Bradford, were awarded a special prize for a fine group of twenty-five Cattleya and Lælia hybrids, including good L.-c. × callistoglossa, L.-c × luminosa, &c.

M. Ch. Maron, Brunoy, obtained a first prize for a specimen of Cattleya × Maroni bearing two spikes and an aggregate of fifteen flowers.

M. Beranck, Paris, obtained second prizes for twenty-five Orchids in flower, and for a group of twenty-five Oncidium varicosum Rogersii, and special prizes for a well-flowered Vanda cœrulea, Cypripedium × Beyrodtii, and C. × "Souvenir de Düsseldorf (bellatulum × Rothschildianum). The latter is evidently a variety of C. × Rolfei.

M. Dietrich, Brussels, was awarded second prize for a group of fifteen Cypripediums, in which was a very good specimen of C. insigne Sanderæ.

CALENDAR OF OPERATIONS FOR NOVEMBER.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE mention of November is not calculated to inspire Orchid growers with hilarity, especially those in the immediate vicinity of large towns, as with one or two visits of fog, the result of twelvemonth's work is often ruined. This is the time for foggy weather. The pure fogs of the country are in no way injurious, but those in the neighbourhood of large towns are so charged with smoke and various chemical fumes, which are unable to pass away, that vegetation is seriously handicapped. Under these circumstances it is not at all surprising that when the fog fiend swoops down upon our plants, the flowers and flower-spikes are spoilt, and even the foliage of some species is likewise affected; more especially if the atmosphere of the house be very much parched. I would recommend all ventilators to be closed and sufficient warmth maintained to cause a genial temperature. Time permitting, it is a good plan to sponge the leaves of Orchids with clear soft water when the fog has passed away.

A good deal of attention should now be given to the atmosphere of the various houses. By all means avoid a fiery dry air when strong heat is necessary from the pipes, judiciously damping down once or twice a day as may seem necessary. On the other hand avoid an atmosphere overladen with moisture during damp mild weather, when but little fire heat is needed, for at such times very little damping down should be done. Whole days may probably pass by when it may be inadvisable to use a drop of water for such a purpose. It is impossible to write down instructions which are applicable to all cases, and the cultivator must use his discretion to some extent, as to when the damping down is necessary. Excessive drought causes the plants to lose vitality, whilst excessive moisture is a prolific source of spot and other diseases. The coolest houses, where less artificial warmth is necessary, are those demanding the least amount of moisture during the winter.

Watering is another matter which should be done carefully at this season. Even those plants which are in growth during winter, such as Odontoglossum crispum, will require comparatively little, while all those species having a decided season of rest will require much less. Enough, however, must be supplied to keep the pseudo-bulbs quite plump. Once a week, or more, may suffice, according to the weather and strength of the plants. I recommend generally, when giving a plant water, to do it thoroughly, but there are exceptions to this rule also. For instance, when a plant is in a large receptacle, which necessitates a large mass of compost, it often becomes advisable, especially at this dull time of the year, to moisten the surface of the compost only, for if the whole body is saturated

a long period must elapse before it again evaporates. If there should be a doubt as to a plant being sufficiently dry to require watering, let it remain until the following day. Always bear in mind that plants in small baskets or pots require more frequent watering than those in large ones. Should the water by any means lodge in the young growths at this season, hasten to get it out at once.

It is better to suspend all potting operations for the winter, for great risks are run if the roots are disturbed. It may be done with greater impunity and less risk in localities where the maximum amount of light is to be had than in large commercial centres, where the atmosphere is necessarily much heavier. Newly-imported plants must, however, be attended to without delay. Clean them and pot them up, if only temporarily, and place them at once in their respective houses. Keep the surrounding conditions as evenly balanced as possible, for extremes in wet or drought would be very injurious to them at this stage.

The several departments, if not already done, should be gone through and well washed and cleaned, the glass and woodwork both inside and out being attended to, and the walls lime-washed, while the plants themselves should not escape a searching examination for all insect pests. A thorough good cleaning periodically not only increases the light which is so much needed in winter, but is invaluable as a means of keeping that troublesome army of ants, cockroaches, woodlice, slugs, &c., effectually in check.

A good many flower spikes are now making their appearance in the cool houses, and among them are Oncidium varicosum and O. Forbesii. These two species expand their flowers much better if given a temperature a trifle warmer, otherwise the flower buds are apt to turn yellow and drop. They are best to remain there throughout the winter; but if space does not admit, they may be returned to the coolest house with safety if kept on the dry side. Oncidium ornithorhynchum is also making a good show, and is best under the above warmer treatment. O. tigrinum, O. crispum, O. Gravesianum, and O. macranthum are about to open their beautiful flowers, also those three pretty little Cool house pan or basket Orchids, Odontoglossum Cervantesi, O. Rossii, and Sophronitis grandiflora. Odontoglossum Edwardi, O. Uroskinneri and O. ramosissimum are also developing their spikes.

The Cattleya House, too, in this dull month of November will stand second to none in splendour. I think every collection finds room for the lovely Cattleya labiata, and grows a large quantity of it. The brilliancy of colour is truly beautiful, and as the light of the day varies so does it seem to change the various shades of colour of the flowers. It is an Orchid that grows most vigorously when newly imported, but it is advisable to be

watchful, for it has not such a strong constitution as it would lead one to suppose. See that the roots are always kept in good condition, by re-potting when required. Once in about two years it should be completely taken out of the old compost, and repotted in fresh, clean material. Three years should certainly be the outside limit. I may again remind growers that C. labiata, like C. Dowiana, has a rather unpleasant habit of losing its new pseudobulb directly after flowering by damping and rotting. This decay, which is greatly accelerated by damp, dull weather, sets in from where the flowers are cut, and if not stopped rapidly it descends, and the result may be fully imagined. In order to avoid this, remove the old flower spike and sheath entirely, after which the wound soon heals, and damping then rarely occurs.

Pleione lagenaria, and P. maculata, again, are very pretty while they last. These little Orchids are of easy culture, though sometimes they may be seen in very indifferent health. As deciduous Orchids they are often thought to require a rest after flowering, but this is a mistake. Pleiones are never really inactive. Directly the flowers have faded they commence to grow and emit new roots, and this is the time to repot them. I find it is not necessary to do this every year. Once in two years will suffice. Sphagnum moss and peat broken finely and mixed together is a most suitable compost for them. A little fibrous loam may also be added with beneficial effect. After re-potting keep the compost just moist, and suspend them in an intermediate temperature. Pleiones delight in an abundance of light.

Odontoglossum grande is now just passing its best period. Such a good old species is really worth growing well, and is hard to beat as an autumn bloomer. To accomplish excellent culture, my experience is that it should be treated simply as an Intermediate house Orchid, and grown in leaf soil compost. It should be kept on the dry side during winter.

Phalænopses will now be showing their flower spikes. They give very little trouble when the structure is a suitable one. They should always occupy the warmest part of the house, and be suspended just so far from the glass that the cold from the same does not strike down upon them. Avoid also cold draughts, and water during winter very carefully. Under such treatment they should grow well, and keep free from that tiresome spot. They are soon laid low when attacked by spot, which I think is generally caused by a check brought about by too low a temperature, especially if they are at the same time wet.

Calanthes should now have much less water, enough only to support the flower spikes, which are now reaching an advanced stage.

PLEIONES.

THE Pleiones, or Indian Crocuses as they are sometimes called, are of easy culture, and few, if any, of our smaller growing Orchids are more beautiful when well grown. Considering the large number of flowers they produce at a dull season, and the beautiful effect afforded when they are used for decorative purposes, space should be allowed for them in every collection.

The flowers of this Orchid keep long in good condition when used for room decoration, neither the dry air nor lack of light affecting them or the plants; in fact, the growths always seem to break away stronger after their short rest in the dwelling house. Pleione flowers are also useful for button-holes, and they are easily gathered by giving them a gentle pull, when the stem will readily part from the base of the growths, and will be much longer than when cut.

By the time this note appears in the *Orchid Review* such varieties as P. maculata, P. lagenaria, P. concolor, P. præcox, and P. Wallichiana will be going out of bloom, and the cultivator will observe that those green shoots from the centre of which the blooms have sprung will, under proper treatment, develop into strong flowering pseudo-bulbs, ultimately producing three or more flowers.

As soon as the flowers have faded, the new shoots will already have produced from their base a number of small white roots, and as these roots lengthen rapidly, no time should be lost in affording them fresh material to run into. If the operation is delayed till the roots advance somewhat, many are certain to be injured, as they are easily broken when handled. Whether ordinary flower pots or those shallow pans that are in general use be preferred, sufficient drainage must be afforded to permit the passage of the large quantities of water these plants require when in full growth. Cultivators who prefer to grow the plants suspended from the roof, will find pans the more convenient receptacles. At least one half of the pot or pan should consist of broken crocks, and over these it is necessary to place a thin layer of moss, so that the compost may be kept moist, and to prevent its sifting through the drainage. Turn the pseudo-bulbs out of their pots, and shake off most of the stale soil, cutting off all roots which are dead. Instead of dividing the bulbs, it is advisable to repot them in clumps, the pseudobulbs almost touching each other. Pots or pans 8 or 10 inches in diameter, which will hold about 18 or 20 bulbs, will generally be found very useful sizes. The potting material is best composed of equal parts of fibry loam, peat, and chopped sphagnum moss, well mixed with a moderate quantity of broken crocks, and coarse silver sand. Over the layer of moss the pot should be filled to within an

inch of the brim with the compost, on which the bulbs should be placed, the space between the bulbs and the sides of the pots being filled up with the soil; and also, where possible, some of the roughest of the material may be placed between the pseudobulbs, giving preference to the sphagnum moss, as being retentive of moisture. It is very desirable that moss should be grown on the surface of the compost, as it keeps a whole-some moisture about them in which they seem to luxuriate.

When repotting is finished the plants should receive a gentle watering, just to settle the soil, and then be placed near to the roof glass in the Cattleya or Intermediate house, and until the roots get fairly well hold of the soil, the supply of water should be very limited. After they have got established, and are growing freely, they may receive almost unlimited quantities. Strong-growing plants, when about half way through their growing period, will be greatly benefited if the usual watering is supple-mented with weak liquid manure water about once a week. When the leaves commence to change colour this should be discontinued. In the spring and summer months the foliage should be well syringed underneath at least once every day; this will keep down red spider, to which Pleiones are liable.

Pleione maculata is the prettiest of the genus, its pure white sepals and petals contrasting beautifully with the white, yellow, and purple lip. The pure white variety P. maculata alba is also very pretty and delicate. P. lagenaria is the commonest of the genus. Its rose-lilac sepals and petals and beautifully marked lip are always attractive. P. præcox and its variety Wallichiana are the largest of the genus, the flowers frequently measuring four to five inches across, and their colour is a light rose-purple, the margin of the lip being prettily serrated. P. concolor has a whitish lip, beautifully fringed. P. Reichenbachiana has rose-coloured sepals and a white lip streaked and spotted with purple and crimson. This variety is not so well known as the others, and it is doubtful if there are any plants under cultiva-tion in this country.

In addition to the varieties mentioned, there are P. humilis, P. Hookeriana and its variety brachyglossa, all being exceedingly pretty when in bloom. These, together with P. Reichenbachiana, grow at a higher Alpine region than the others, and thrive best when suspended close up to a ventilator in the cooler atmosphere of the Odontoglossum house. These latter varieties generally flower about January, February, and March; therefore until that time the plants should on no account be disturbed by repotting, but kept in the Cool house all through the winter, and water should be afforded occasionally to keep the pseudo-bulbs in a plump, healthy condition.

Burford, Dorking. W. H. WHITE.

ANGRÆCUM SANDERIANUM.

ANGRÆCUM is a large and very polymorphic genus which is almost confined to Tropical Africa and the adjacent islands, and which contains many very curious and several highly ornamental species, among which latter the one here figured must be placed. It is a native of the Comoro Islands, where it was discovered by M. Leon Humblot, and sent to Messrs. F. Sander & Co., of St. Albans, who flowered it in 1888. It was described by Reichenbach under the name of A. Sanderianum (*Gard. Chron.*, 1888, i., p. 168), as an ally of A. descendens, Rchb. f., though distinct in its shorter floral envelopes, rounded petals and lip, and the column without a vestige of hairs. The latter, by the way, is still very imperfectly known. A. Sanderianum is probably the geographical representative of the Madagascar A. modestum, Hook. f. (*Bot. Mag.*, t. 6693), which it very closely resembles. That it is a very graceful and ornamental plant is evident from the illustration, which represents a plant which flowered in the collection of G. Shorland Ball, Esq., of Wilmslow.

Fig. 47. ANGRÆCUM SANDERIANUM.

The flowers are borne in long pendulous racemes, and are white with a little buff colour on the spurs, which are long, slender and curved, as well shown in the illustration. The plant was grown in a rather small pan, filled with the usual compost, and suspended from the roof in the Warm house. The plant produced a multitude of strong roots, and is evidently very vigorous, as may be inferred from its having developed three such fine racemes. It is worthy of a place in any collection where Warm house Orchids are grown.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on October 18th, when there was a magnificent display of Orchids, and the awards consisted of one Gold and eight other medals, two First-class Certificates, five Awards of Merit, and three Botanical Certificates. (The previous meeting was a special exhibition of fruit, and the Orchid Committee did not meet.)

The Hon. Walter Rothschild, M.P., Tring Park (gr. Mr. Dye), staged a very interesting group, composed chiefly of Masdevallias and Restrepias, to which a Silver Banksian Medal was given. Among the noteworthy kinds were the remarkable M. ventricularia, M. Wendlandiana, M. muscosa, the true M. melanoxantha, M. nidifica, together with various other species and hybrids; also the remarkable Phalænopsis Lowii, Cattleya labiata, C. × Minerva, Lælia-cattleya × Digbyano-Warscewiczii, and others. Botanical Certificates were given to the rare Restrepia aspasicensia and Cœlia macrostachya, an interesting Orchid which is noted on another page.

Leopold de Rothschild, Esq., Gunnersbury Park, Acton (gr. Mr. Reynolds), also received a Silver Banksian Medal for a beautiful group of about sixty well-grown specimens of Cattleya labiata. A fine dark form with ruby-coloured lip, and another having blush-white flowers with a slight purple tracing on the lip, were particularly noteworthy.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitelegge), also received a Silver Banksian Medal for a beautiful group, containing a fine lot of Cattleya × Mantinii and C. labiata, the richly-coloured C. l. Brilliant and C. l. Lowiæ being specially good, C. × Mrs. J. W. Whiteley, Lycaste Skinneri alba, L. S. Fairy, Lælio-cattleya × Ingrami, L.-c. × Ascania, Miltonia × Bleuana with thirty-three flowers, Oncidium × Mantinii Bradshawiæ, a handsomely marked variety, Cymbidium giganteum, &c.

G. F. Moore, Esq., Chardwar, Bourton-on-the-Water (gr. Mr. Page), received an Award of Merit for Cattleya × Portia Chardwar variety, a large rose-purple form with dark claret throat.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), received an Award of Merit for Cypripedium × King Edward VII. (Rothschildianum × nitens magnificum), a large and handsome hybrid, having the dorsal sepal pale greenish white lined with chocolate-purple except near the margin, and the petals white with lines of chocolate-purple blotches.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, received a Botanical Certificate for Bulbophyllum Weddelii, a remarkable Brazilian species, bearing a pendulous raceme of greenish flowers, in which the large mobile purple-spotted lip is a conspicuous feature. It was recently figured in the *Botanical Magazine* (t. 7958).

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent Cypripedium × Chameleon (× nitens superbum × Williamsianum).

C. C. Mann, Esq,. Levanne, Gourock, Glasgow, sent a hybrid Cypripedium of unknown parentage.

Messrs. Charlesworth & Co., Heaton, Bradford, staged an extensive and most brilliant group, which gained the award of a Gold Medal. Itwas particularly rich in showy hybrids, which were grouped together in classes as much as possible, and thus rendered additionally interesting. In the centre of the group was a fine batch of Cattleya × Mantinii forms, and another very beautiful group was formed of C. × Iris varieties, ranging from primrose yellow to reddish orange, with rich crimson lips. Other fine things were C. × fulvescens, C. × Germania, C. × Parthenia vernalis, some fine forms of L.-c. × luminosa and L.-c. × Cappei, L.-c. × Alcyone (L. flava × C. Schilleriana), a pretty novelty with chrome-yellow flowers, and the front of the lip marked with crimson, some good Vanda cœrulea. A group of Brassavola Digbyana hybrids was also very effective, and one of them received a First-class Certificate under the name of Lælio-cattleya × Digbyano-Mossiæ Queen Alexandra (C. Mossiæ Wageneri × B. Digbyana), a beautiful white form without a trace of pink, the only colour being a tinge of greenish on the sepals and a little light primrose on the disc of the lip. Awards of Merit were also given to Cattleya × Iris Fascinator, a rich orange variety somewhat shaded with red, and C. Rose Leemann (amethystoglossa × Dowiana aurea), a distinct and beautiful hybrid, having pale Indian yellow sepals and petals, the former bearing some purple spots, and the latter slightly veined with purple, while the front lobe of the lip and tips of the side lobes were rich purple-crimson.

Messrs. Sander & Sons, St. Albans, staged a very fine group, which gained a Silver Flora Medal, including, among other interesting things, Cymbidium × woodlandense (Tracyanum × Mastersii) with flowers most like the former, Cattleya × amabilis (labiata × Warscewiczii), a large and richly coloured hybrid, C. × Lord Rothschild, Zygocolax × Amesianus, Bulbophyllum recurvum, Miltonia × Bluntii Lubbersiana, Lælio-cattleya

× luminosa, and others, an interesting new Phragmopedilum, P. × Gottianum (caudatum × macrochilum), having graceful cream-white flowers tinged with rose, Cypripedium × Boadicea (× Calypso × nitens, Sander's var.), and others. An Award of Merit was given to "C. callosum Sanderæ Hye's variety," a very beautiful albino, and a First-class Certificate to C. × Fred. K. Sander (× Annie Measures × bellatulum), an exceptionally fine hybrid, having the dorsal sepal $2\frac{1}{2}$ inches broad, and the petals $3\frac{1}{2}$ inches long by $1\frac{3}{4}$ inches broad, while the colour is cream-white, regularly spotted with dark purple, with the spots on the lip smaller than those on the petals.

Messrs. James Veitch & Sons, Chelsea, received a Silver Flora Medal for a fine group of hybrids, in which Cattleyas and Lælio-Cattleyas were conspicuous, also some fine hybrids of Brassavola Digbyana, one of which, called Lælio-Cattleya × Digbyano-Warscewiczii Veitch's variety, being specially noteworthy, the flower being purple-rose in colour, with the disc of the lip pale yellow.

Messrs. James Cypher & Sons, Cheltenham, were also awarded a Silver Flora Medal for a fine group, including some good Dendrobium Phalænopsis showing the usual range of colour variation, some good Cattleya labiata, Oncidium Jonesianum, and others, Platyclinis Cobbiana, Masdevallias, Cypripedium insigne Sanderæ, C. i. Dorothy, and other forms of the species, C. × Mrs. A. W. Sutton, two beautiful C. × Maudiæ, C. × Pitcherianum, the handsome C. × Minos, and a remarkable hybrid between C. Mastersianum and C. Curtisii.

Messrs. Hugh Low & Co., Bush Hill Park, received a Silver Banksian Medal for a pretty little group, containing some good Cattleya labiata, C. × Martinii, C. Bowringiana, Low's variety, a large, brightly coloured form, Lælia pumila, a fine specimen of Masdevallia tovarensis, M. × Pourbaixii, Warscewiczilla Wailesiana, Phalænopsis denticulata, Oncidium cheirophorum, O. incurvum album, &c.

Messrs. Stanley & Co., Southgate, also received a Silver Banksian Medal for a group of good Cattleya labiata, with a few other things, among which Cattleya × St. Gilles (× Patrocinii × Dowiana aurea) was noteworthy. The flowers are rose-coloured, with a few purple spots at the apex of the petals, and the lip large and richly coloured, with the disc bright yellow.

M. Ch. Vuylsteke, Ghent, sent some pretty forms of Odontoglossum × ardentissimum, O. × Vuylstekei, O. × Wilckeanum, and O. × Harryano-crispum.

Mr. H. A. Tracy, Twickenham, sent a number of well-flowered Cypripedium Spicerianum raised from seed, and a species of Eria.

The St. George's Nursery Co., Hanwell, sent a large-flowered form of Vanda cœrulea.

The Report of the Scientific Committee of the same date records as follows:—

BULBOPHYLLUM WEDDELII.—Mr. Odell showed a spray of this Orchid, remarkable for the oscillating character of the labellum.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on October 14th, when there was a very fine display of autumn-flowering Orchids.

E. Rogerson, Esq., Didsbury, staged a good group of Orchids, which gained a Silver Medal, while Awards of Merit were given to Cypripedium × Memnon superbum and C. × Hitchinsiæ. Another noteworthy plant exhibited was C. Charlesworthii picturatum.

S. Gratrix, Esq., Whalley Range (gr. Mr. G. Cypher), sent several handsome Orchids, two of which received Awards of Merit, namely Cypripedium × Baron Schröder and Cattleya × Lottie (Aclandiæ × Trianæ Backhouseana), a pretty mauve-purple hybrid with a rich purple-crimson lip. Mrs. S. Gratrix exhibited a fine plant of Cattleya × Souvenir de Queen Victoria.

R. le Doux, Esq., West Derby, Liverpool (gr. Mr. Davenport), received Awards of Merit for Cypripedium × Mrs. Fred Hardy, and Cypripedium Charlesworthii Madame le Doux, the latter being a splendid example of good culture, in recognition of which a Bronze Medal was voted to the gardener.

T. M. Crook, Esq., Houghton, Lancs. (gr. Mr. Perks), staged a nice group, to which a Vote of Thanks was accorded, the more noteworthy plants being Lælio-cattleya × bletchleyensis, Cattleya Harrisoniana var. Alexandræ Cypripedium × Olivia, and C. × Lord Derby.

T. Statter, Esq., Whitefield, (gr. Mr. Johnson), again exhibited the original plant of Cattleya × Hardyana, in splendid health, a Vote of Thanks being accorded. The plant, which it may be remembered was figured at page 337 of our last volume, originally appeared in the collection of the late George Hardy, Esq., in 1884, and thus has been cultivated for twenty years.

Dr. Hodgkinson, The Grange, Wilmslow (gr. Mr. Woore), received an Award of Merit for Lælio-Cattleya × Cappei, Grange variety, a handsome form.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), sent Cypripedium insigne New Hall Hey variety, a large well-marked form, and C × Elmireanum (insigne × Charlesworthii), the latter receiving an Award of Merit.

W. Duckworth, Esq., Flixton, again exhibited Lælia Perrinii alba in excellent condition, bearing a spike of four beautiful flowers.

Messrs. John Cowan & Co., Gateacre, received a Bronze Medal for an interesting little group, and Awards of Merit for Cattleya × Portia magnifica, and Lycaste Skinneri var. Surprise, the latter having buff-coloured segments.

Messrs. Sander & Sons, St. Albans, and Messrs. James Cypher & Sons, Cheltenham, also each received a Bronze Medal for a bright and interesting little group.

At the meeting held on October 27th there was again an interesting, though not large display of Orchids, including four groups, and the awards included one First-class Certificate and four Awards of Merit.

E. Rogerson, Esq., Didsbury (gr. Mr. Blomley), staged a brilliant group, to which a Silver-gilt Medal was awarded. Among the more noteworthy plants were a beautiful Cattleya labiata alba, several of the fine white form of C. × Hardyana, and others. An Award of Merit was given to the handsome Cypripedium × bingleyense var. Thomas Rogerson.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), exhibited Sophro-cattleya × Doris, a very richly coloured hybrid between Sophronitis grandiflora and Cattleya Dowiana aurea, to which a First-class Certificate was unanimously awarded.

C. Parker, Esq., Ashton-on-Ribble, received an Award of Merit for Cypripedium × Milo var. Prestona.

E. Bostock, Esq., Stone, Staff., exhibited two hybrid Cypripediums.

Messrs. Stanley & Co., Southgate, London, received an Award of Merit for Cattleya × Fabia var. Marie de Wavrin superba, a handsome hybrid derived from C. labiata alba and C. Dowiana aurea.

Messrs. Keeling & Sons, Westgate Hill, Bradford, received a Vote of Thanks for a bright and attractive group, and an Award of Merit for Cypripedium × Goultenianum.

Messrs. J. Cypher & Sons, Cheltenham, and Messrs. John Cowan & Co., Gateacre, also each received a Vote of Thanks for a bright and interesting group.

CŒLIA MACROSTACHYA.

AT the R. H. S. meeting held on October 18th a Botanical Certificate was given to the interesting Cœlia macrostachya, from the collection of the Hon. Walter Rothschild, M.P., Tring Park. It is a rather rare Orchid, but we have just seen a very fine inflorescence from the collection of Mrs. Mickall, Pattison Court, Redhill, where, as we learn from Mr. W. P. Bound, The Gardens, Gatton Park, Reigate, it flowers every year, when grown in

the Cool house, in a loamy compost. C. macrostachya was originally discovered by Hartweg, in the Hacienda de la Laguna, Mexico, and described in 1842 (Lindl. in *Benth. Pl. Hartw.*, p. 92). Living plants were also sent to the Horticultural Society, one of which flowered in the collection in 1849, when Lindley remarked: "Received some years since from Mr. Hartweg, who collected it in Guatemala; and also from Mr. Skinner. The expectations respecting the ornamental appearance of this plant have not been realised. It has been found in a wild state with a close flower-spike as much as a foot long, and its blossoms are reported to be deep red; but in cultivation it has hitherto gained no such size, and the colour is only a pale rose, without any brilliancy." (*Journ. Hort. Soc.*, iv., pp. 114, 115, with fig.). In 1853 it was figured in the *Botanical Magazine* (t. 4712), Sir William Hooker then remarking:—"It is really a handsome plant, and well worthy a place in every Orchideous collection, flowering in August, when our fine spike was sent from the Belfast Garden by Mr. Ferguson, the able Curator. The pseudobulb and foliage, the latter in perfection at a more advanced period, were drawn from our own plant at Kew." It was also well figured in the *Revue Horticole* in 1878 (p. 210, fig. 41, and plate). It is a member of a small genus, and is very distinct from the two other species, C. Baueriana and C. bella, in having rose-coloured flowers, with a white lip. It is a very distinct Orchid, and a well-grown plant is certainly effective.

R. A. R.

ZYGOCOLAX × VEITCHII.

THOSE who remember a short article entitled "Hybrids in the *Botanical Magazine*" which appeared in these pages four years ago (*O. R.*, viii., p. 263) will be interested to know that another hybrid is illustrated in the last issue of the work mentioned, namely *Zygocolax* × Veitchii (t. 7980), and what gives the plate an additional interest is that it contains also a figure of a flower of each parent, thus presenting a very graphic record of the plant's origin and characters. We may here summarise the very interesting article by Mr. W. B. Hemsley:—

Hybrid Orchids of reputed bigeneric origin are now not uncommon. The first raised artificially was Phaiocalanthe irrorata, Rolfe, a cross effected by Dominy between Phaius grandifolius and Calanthe vestita. It was originally described by Reichenbach under the name of Phaius irroratus, and a coloured figure appeared in the *Floral Magazine* (viii., t. 426). This was a highly interesting achievement, both of the parents having long been in cultivation, and the former was one of the earliest of exotic Orchids cultivated in England. For many reasons *Zygocolax* × Veitchii, Rolfe, deserves our attention and admiration.

Messrs. Veitch (*Man. Orch.*, ix., p. 67) say: "This hybrid, whether in its botanical or horticultural aspect, is one of the most interesting we have yet raised." It was the result of a cross effected by Seden, the worthy successor of Dominy, between Colax jugosus and *Zygopetalum crinitum*, respectively the male and female parents of the hybrid. The seed was sown in September, 1882, and the first flowers were produced in March, 1887. Truly the gardener has to wait for the flowers of his labour! *Zygocolax* × Veitchii is also noteworthy as having been the principal subject of Mr. R. A. Rolfe's excellent articles on a uniform plan of naming bigeneric hybrid Orchids. He followed Dr. M. M. T. Masters in combining elements of the names of the two genera concerned, and this has now become almost universal in practice. Another point of special interest and importance in the plant figured is that it is of natural origin, having been imported direct from Brazil by Mr. Kromer, Roraima Nursery, Croydon, as we are informed by Mr. Young, gardener to Sir Frederick Wigan, Bart., in whose garden at East Sheen the plant in question flowered in February of the present year. But, as Mr. Rolfe has pointed out, it does not differ from the original *Z.* × Veitchii, and therefore deserves no distinctive name.

A full description with references accompanies the plate, and it may be remembered that a note on this plant was given at page 93 of the present volume.

THE HYBRIDIST.

SOPHROCATTLEYA × DORIS.—This is a most brilliant little hybrid, which was exhibited at a meeting of the Manchester Orchid Society on October 27th, by John Leemann, Esq., of Heaton Mersey, and was unanimously awarded a First-class Certificate. It was derived from Sophronitis grandiflora and Cattleya Dowiana aurea, and the flower, which has been sent to us, shows the most unmistakable evidence of its origin. In fact the flower reached us in advance of the information, and we instantly detected its parentage. The flower most resembles the Sophronitis parent, but is enlarged to over $3\frac{1}{2}$ inches in diameter, and the lip to nearly $1\frac{3}{4}$ inches long. with ample infolded side lobes, and distinct traces of the characteristic golden yellow veining of the Cattleya parent on the disc. With such characters there is no mistaking its origin. In colour the influence of the Sophronitis parent greatly preponderates, as the flower is bright rosy crimson almost throughout, except for the orange on the disc of the lip, and a trace of similar shading on the petals. These latter are $1\frac{3}{8}$ inches broad. It is a gem of the first water, and it will be interesting to see what it develops into at another time of flowering. We have not seen the plant, and hope it possesses a good constitution.

PAPHIOPEDILUM × LUCIE VAR. SMITHII.

THE handsome hybrid here figured was raised by Messrs. Hugh Low & Co. from Paphiopedilum Lawrenceanum ♀ and P. ciliolare ♂, and flowered for the first time in December, 1893, when it was exhibited at a meeting of the R.H.S. under the name of Cypripedium × Smithii (*Gard. Chron.*, 1893, ii., p. 756; *O.R.*, 1894, p. 31). Some time previously, however, a hybrid with the selfsame parentage flowered in the collection of M. Moreau, an amateur of Paris, and was described and figured under the name of C. × Lucie (*Orchidophile*, 1892, p. 17, with plate), and thus

Fig 48. PAPHIOPEDILUM × LUCIE VAR. SMITHII.

our present plant must rank as a variety, though, judging from the two figures, a very distinct one. The figure of M. Moreau's seedling is said to be a very faithful one, and a similar remark certainly applies to the excellent photograph of Messrs. Hugh Low's plant, which was taken by Mr. G. I'Anson, and is here reproduced. The petals in the former are more falcate, and the spots are almost confined to the margins, while the dorsal sepal is relatively longer than in the present one, which may be said to have taken more of the characters of P. ciliolare. In fact the variety is

a decided improvement from a decorative standpoint. The shape of the flower is very good, and the strongly ciliate and handsomely spotted petals render it very effective.

THE AMATEUR'S COLLECTION.

IN continuing the list of Intermediate-house Orchids suitable for an Amateur's collection, we may commence with the beautiful Lycaste Skinneri, which is now making a good show. It is a plant of the easiest culture if properly treated, and its large wax-like flowers are very effective during the winter months. They vary considerably in colour, through various shades of pink and blush, down to the pure white of L. S. alba, which variety is invariably a great favourite. If repotting is necessary this should be done in the spring, just as the plants start into new growth, after which they should not require disturbing for two or three years. The pots should be well drained, and the compost may consist of fibrous peat, loam, sphagnum moss, and some oak or beech leaves in flaky condition. The proportions vary somewhat according to the character of the ingredients, but there should be sufficient fibre to keep the compost fairly open, or there is a danger of its becoming sodden. Great care should be exercised in watering, even when growth is active, and during the resting period very little water is required. L. Deppei and L. aromatica succeed under the same treatment, and produce flowers abundantly in the spring after a good rest. The latter species has deep yellow, very fragrant flowers.

Cymbidium eburneum is a free-growing Indian species, which produces large waxy white fragrant flowers with a band of yellow on the lip. It should be grown in well-drained pots, in a mixture of fibrous loam and peat, with a little sharp sand or broken crocks to keep it open. It has rather large fleshy roots, and requires larger pots than many other Orchids. The compost should not extend beyond half-an-inch below the rim of the pot, so as to allow space for watering. It is a plant which gives no trouble in this respect, as it simply requires water when dry, and if placed in a cool and shady part of the house will thrive and grow into a fine specimen.

Sobralia macrantha and S. xantholeuca are rather large plants, but if space can be afforded they should find a place in the Amateur's collection, as they are easily grown, and produce numbers of large Cattleya-like flowers, bright rose-purple in colour in the former species, and yellow in the latter. And there is a most beautiful albino of the first named, called var. Kienastiana or alba. Although the individual flowers do not last long they are borne for a considerable period in succession. They should be grown in well-drained pots, in good turfy loam, with a little coarse sand or charcoal to keep the compost open. They should be potted firmly, and provision

made for watering as in the preceding species. These plants have no resting period, and should be watered whenever the compost seems to require it, but, of course, a much smaller supply will be needed during the winter. They should be placed in the coolest part of the house, well up to the light. Repotting is seldom required, and a little weak, liquid manure is beneficial when flowering or actively growing.

Few Dendrobiums succeed really well in the Intermediate house, as they require a warmer temperature when growing, but D. thyrsiflorum will succeed here, especially if placed in the warmest corner of the house. It produces large drooping racemes of flowers, having white sepals and petals and a deep orange-yellow lip, which are extremely showy, though, unfortunately they do not last very long. It may be grown in pots or baskets, preferably the former, and the compost should consist of fibrous peat and sphagnum moss in equal proportions. Repotting, when required, should be done as soon as flowering is over, when the plants begin to grow. It should be disturbed as little as possible, any dead roots, however, being removed, and the receptacles should be well drained. Place the plants in a warm moist and shady corner, and encourage growth as much as possible, watering very slightly at first, and abundantly when growth is active. When growth is completed the amount should be gradually reduced, but it should not be dried off like D. nobile, being an evergreen. A sharp look out should be kept for yellow thrip, which is sometimes apt to be troublesome. D. densiflorum requires similar treatment, and chiefly differs in having yellow sepals and petals.

Vanda cœrulea is a very beautiful autumn flowering species, which succeeds well here in a light airy position, and is suitable for either pot or basket culture. It should, however, be shaded from bright sunshine. Vandas, Aërides and their allies require somewhat different treatment from most other Orchids, as their aërial roots cannot be confined to the compost. The receptacles should be well drained with broken crocks, and after the plants are placed in position they should be filled up with sphagnum moss, and the stems secured by a few ties to keep them firm. They require plenty of moisture when growing. It is advisable to cut the spikes after the flowers have been expanded two or three weeks, to avoid weakening the plants.

Cœlogyne Massangeana succeeds well in baskets in the usual compost, and soon grows into good specimens, which flower very freely when the plants are strong, and its long pendulous racemes of buff-coloured flowers are very graceful.

Several species and hybrids of Cypripedium will thrive well in this house, and by judicious selection among the summer and winter flowering kinds the flowering season may be prolonged over a considerable period.

PAPHIOPEDILUM CHARLESWORTHII AND P. SPICERIANUM.

THE question as to whether Paphiopedilum Charlesworthii and P. Spicerianum grow anywhere intermixed has been pretty exhaustively discussed in these pages, so far as the existing evidence is concerned (see vol. ix., p. 369, and x., pp. 14, 296, and 369), and now a further detail can be added. The third reference cited above contained the following:—"Some time ago some imported P. Charlesworthii were purchased for the Kew collection, and, in potting up, some of the larger clumps were divided, making some dozen and a half plants altogether. The majority are now in flower, but singularly enough two of them prove to be P. Spicerianum. Without knowing the history of the importation one could not say positively that the plants actually grew intermixed, but at all events the facts are significant in connection with what has been recorded before." It is well known that the two species are remarkably alike in their foliage, but that there are differences in the markings of the under surface, and the discovery just recorded led to an examination of the remaining clumps, with the result of showing that one clump almost certainly contained both species. In the following autumn this clump produced one or more flowers of P. Spicerianum, when unfortunately it was lost sight of, and was believed to have been given away in exchange. It appears that it went to the collection of John Crombleholme, Esq., St. Mary's, Clayton-le-Moors, Accrington, as this gentleman now writes to Mr. Watson:—"A clump of Cyp. Spicerianum which you gave me last November has just flowered, throwing up four flowers, one of which is a pure Charlesworthii and the other three Spicerianum. Does not this tend to prove that they grow together in nature?" It certainly tends to confirm the evidence which has already been collected to this effect. The explanation probably is that while the areas of the two species are in the main distinct they somewhere overlap, and there, of course, hybrids may occur. We should like to see the origin of the mysterious plants known as Cypripedium Fred. Hardy and C. Crawshawæ cleared up.

R. A. R.

ORCHIDS IN SEASON.

THE brilliant autumn-flowering Cattleya labiata is again flowering freely in almost every Orchid collection and producing a most brilliant display, and the fact makes it very difficult to realise how excessively rare it was a few years ago. Its re-discovery and importation in quantity is one of the most important events of recent years. A large and very handsome form has been sent from the collection of F. M. Burton, Esq., Highfield, Gainsborough.

The flower, which is one of an inflorescence of three, is of excellent shape, and has a maximum expanse of 7½ inches, while the petals and lip are 2¼ inches broad. The colour is light rosy purple, with the front lobe of the lip very deep purple-crimson. It is very beautiful.

A charming white form, called C. labiata Lowiæ, is sent from the collection of J. Bradshaw, Esq., The Grange, Southgate. It is of average size and good shape, and the white colour is set off to advantage by a light rosy-purple blotch on the lip, in front of the yellow disc. The spike has three flowers, and Mr. Bradshaw states that it was purchased at Mr. Thompson's sale by Messrs. Charlesworth & Co., from whom he obtained it last year. We are able to trace it back to 1895, in October of which year it received an Award of Merit from the R.H.S., when exhibited by Messrs. Hugh Low & Co. It was noted at page 352 of our third volume.

Several very beautiful hybrids are sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, by Mr. Smith. Cattleya × Mantinii is a very beautiful hybrid, and the plant is said to have two spikes of six and seven flowers each. Lælio-cattleya × Bryan is a most handsome flower, in which the characters of Lælia crispa and Cattleya Gaskelliana are combined in the most effective manner. The flower is of good shape, and delicate blush in colour, with the disc and front half of the lip very rich purple-crimson. L.c. × Hermione (L. Perrinii × C. Luedde-manniana) has rosy purple sepals and petals, with the disc of the lip whitish yellow, and the apex and very undulate margin of the front lobe intense crimson-purple. L.-c. × Meteor (C. Bowringiana × L. Dayana) is a curious little hybrid of intermediate shape, and much like the Lælia parent in colour. It seems not to be fully developed at present. They form a very interesting little group.

A spike of the distinct and pretty Epidendrum Brassavolæ is sent from the collection of John E. Vanner, Esq., Camden Wood, Chislehurst, by Mr. Robbins, who remarks that it flowers annually in the Cool house, lasting quite two months in bloom.

PAPHIOPEDILUM × ROLFEI.

IN the September number of the *Orchid Review* (p. 264), you refer to the painting of Cypripedium × Rolfei, sent you by Mr. Chas. Storer, and painted from a plant in my collection, and raised the question as to the origin of this plant. In the spring of 1897 I purchased of the late Erastus Corning, Esq., of Albany, N.Y., practically all of the seedling Cypripedes in his fine collection. William Gray, Mr. Corning's gardener, who made this cross, told me that these (Rolfei) seedlings were very slow growers, and that the plants were then some four years old. As they have been in my

possession some seven years, it brings their age at the time of flowering to eleven years. The plants are very vigorous growers, and remarkably strong, and it is astonishing that they do not flower better. I wonder if this is the experience of others who have raised or grown this cross.

Brookline, Mass., U.S.A. J. E. ROTHWELL.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during November, on the 1st, 15th, and 29th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on November 10th and 24th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

A flower of the remarkable Cypripedium Charlesworthii var. Madame le Doux, which received an Award of Merit and a Bronze Medal from the Manchester Orchid Society on October 14th is sent from the collection of R. le Doux, Esq., West Derby, Liverpool (gr. Mr. Davenport). The dorsal sepal is remarkably developed, measuring as much as $3\frac{3}{8}$ inches broad.

A flower of the very handsome C. × Mrs. Fred. Hardy, Le Doux's var. (superbiens × bellatulum), which received an Award of Merit at the same meeting, is also sent from the same collection. The petals are handsomely spotted throughout with dark purple on a cream-yellow ground, and measure 3 inches long by $1\frac{1}{4}$ inches broad; while the front of the lip is dark purple, and the dorsal sepal pale greenish yellow, more or less veined with purple on the lower half.

A correspondent complains of the buds of Cymbidium Lowianum turning yellow and dying, and enquires what can be the cause. He says that two years ago he purchased an imported plant, and recently it threw up a fine spike with about twenty buds, most of which have now gone yellow and seem to dry up. The plant is growing in a stove, where the temperature falls to about 70° in the morning, and the compost is kept fairly moist. We immediately replied that Cymbidium Lowianum is one of the coolest of Orchids, and suggested too much heat as the cause of the mischief, recommending that it be at once removed to the Cool house. We have previously seen a somewhat similar case with C. grandiflorum grown in a

Cattleya house, and could not then suggest a cause. We should like to hear the opinion of others who may have met with a similar difficulty.

A SAPROPHYTIC ORCHID.—A common Orchid of India (Didymoplexis pallens) is just now in bloom. It is said that it is always found growing under the shade of bamboo trees, and lives on the decaying vegetable matter found beneath those trees. We saw a specimen recently growing luxuriantly under the shade of a banyan tree (Ficus bengalensis), there being no bamboo trees within sight.—*Indian Gardening*, 1904, p. 388.

An illustration showing the house of Lælio-cattleya × elegans at The Woodlands, Streatham, appears in *The Garden* for October 1st (p. 233).

A photograph of an interesting and pretty hybrid between Paphiopedilum insigne Sanderæ and P. tonsum is sent by F. H. Moore, Esq., Royal Infirmary, Liverpool. Mr. Moore remarks: "The seed was given me by Mr. Rappart, and I understood that it came from Mr. Ball. This is the first seedling of my own raising that I have flowered, but I have several Dendrobes which ought to flower next spring. It will be a variety of P. × Krishna, a plant which was raised in the collection of H. Graves, Esq., Orange, New Jersey, and flowered in 1895.

Respecting the interesting seedling Odontoglossums between O. maculatum and O. Rossii, whose history has already been given (*O. R.*, vii., p. 277; viii., p. 240), Mr. Moore remarks: "Only one of the Odontoglossum seedlings from the crossing you made here some years ago remains, and it does not get on—in fact, I find the natural hybrid O. × aspersum a bad doer with me." This seedling must now be four years old, and we hope Mr. Moore will succeed in flowering it, when, as already remarked, it should prove the parentage of the natural hybrid O. × Humeanum.

Mr. J. Smith, gardener to R. I. Measures, Esq., Cambridge Lodge, Camberwell, writes: "Our plants of Cattleya Bowringiana have done well this year. and I have one that will be open in a few days with thirty-four flowers on the spike. I do not remember seeing one with that number before."

EXCHANGE OF DUPLICATES.—The question of setting apart a small space monthly in which amateurs could offer their duplicate seedlings and other plants, with at the same time a list of desiderata, has been raised several times, and a correspondent again calls attention to the question. He thinks it would be useful to many amateurs, and proposes that the list should be kept apart from the body of the work, so as not to be bound up with it, and invites the opinions of other amateurs on the subject. He sees

no objection to a small fee to cover the cost. We hope to hear the opinions of others on the subject in time for our next issue, and, as our correspondent suggests, we can then decide whether the proposal meets with sufficient support to invite such lists for our January issue. He remarks: "I should not like my little list to appear by itself."

ORCHID PORTRAITS.

ANCISTROCHILUS THOMSONIANUS VAR. GENTILII, De Wildii—*Rev. Hort. Belge*, 1904, pp. 227, 228, with fig.

CYPRIPEDIUM × FRED. K. SANDER.—*Gard. Chron.*, 1904, ii., p. 307, fig. 139; *Garden*, 1904, ii., p. 293, with fig.

CYPRIPEDIUM × LEEANUM GRAVESIANUM.—*Amer. Gard.*, 1904, pp. 668, 669, with fig.

HABENARIA CARNEA.—*Journ. Hort.*, 1904, ii., p. 299, with fig.

LÆLIA PURPURATA VAR. QUEEN ALEXANDRA.—*Journ. Hort.*, 1904, ii., p. 345, with fig.

ODONTOGLOSSUM CIRRHOSUM PITT'S VAR.—*Gard. Mag.*, 1904, pp. 642, 644, with fig.

ODONTOGLOSSUM CRISPUM (an early spotted form).—*Journ. Hort.*, 1904, ii., pp. 328, 329. with fig.

ODONTOGLOSSUM CRISPUM XANTHOTES CHARLESWORTH'S VAR.—*Gardcn*, 1904, ii, p. 248, with fig.

ONCIDIUM CUCULLATUM.—*Journ. Hort.*, 1904, ii., pp. 364, 365, with fig.

PHAIUS × MARTHÆ.—*Gartenfl.*, 1904, p. 449, t. 1580.

ZYGOCOLAX × VEITCHII.—*Bot. Mag.*, t. 7980.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

H.G.A. Cymbidium giganteum and Xylobium hypocritum, the latter very rarely met with in cultivation.

G.G. A good typical form of Cattleya Eldorado.

J.S. A note on the subject is postponed for want of space, but we agree in thinking there must be some mistake in the record.

W.G. There are several of the Anœctochili of which the correct name is unknown. The plants so-called in gardens belong to several genera, including Hæmaria, Dossinia and Macodes, and it is not always possible to identify them from a single leaf. Let a spike develop and forward it with a leaf.

Photographs received, with thanks. F.H.M., H.A., W.R.

Several notes are unavoidably held over till next month.

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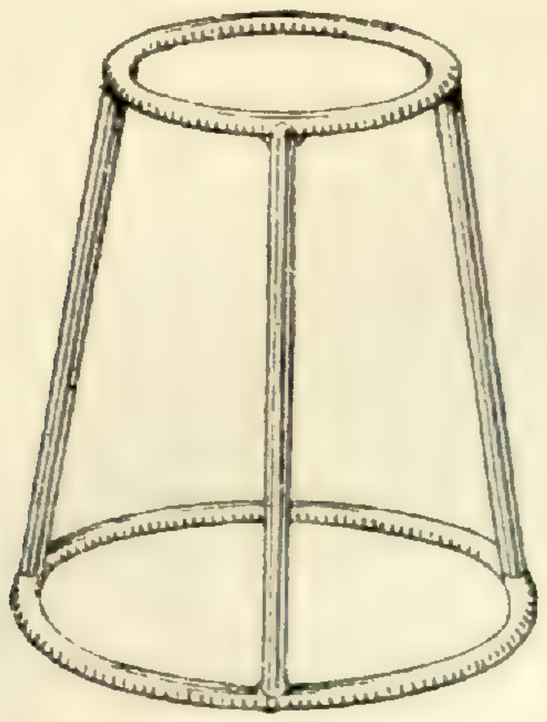

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NOTICE TO READERS OF

THE ORCHID REVIEW

A NOTICE of the **Orchid Stud-Book** appeared in our December issue. This work has been compiled, upon a uniform plan, up to the end of 1903, giving the name, parentage, raiser or exhibitor, and date of appearance, with references to descriptions and figures, and other matters, and will be published as soon as possible.

It is intended to continue the records monthly in the ORCHID REVIEW, as far as possible on the same system, thus giving a ready means of reference to existing hybrids, and, we hope, a means of checking the growing confusion into which the subject has fallen.

Full details appeared in our March issue.

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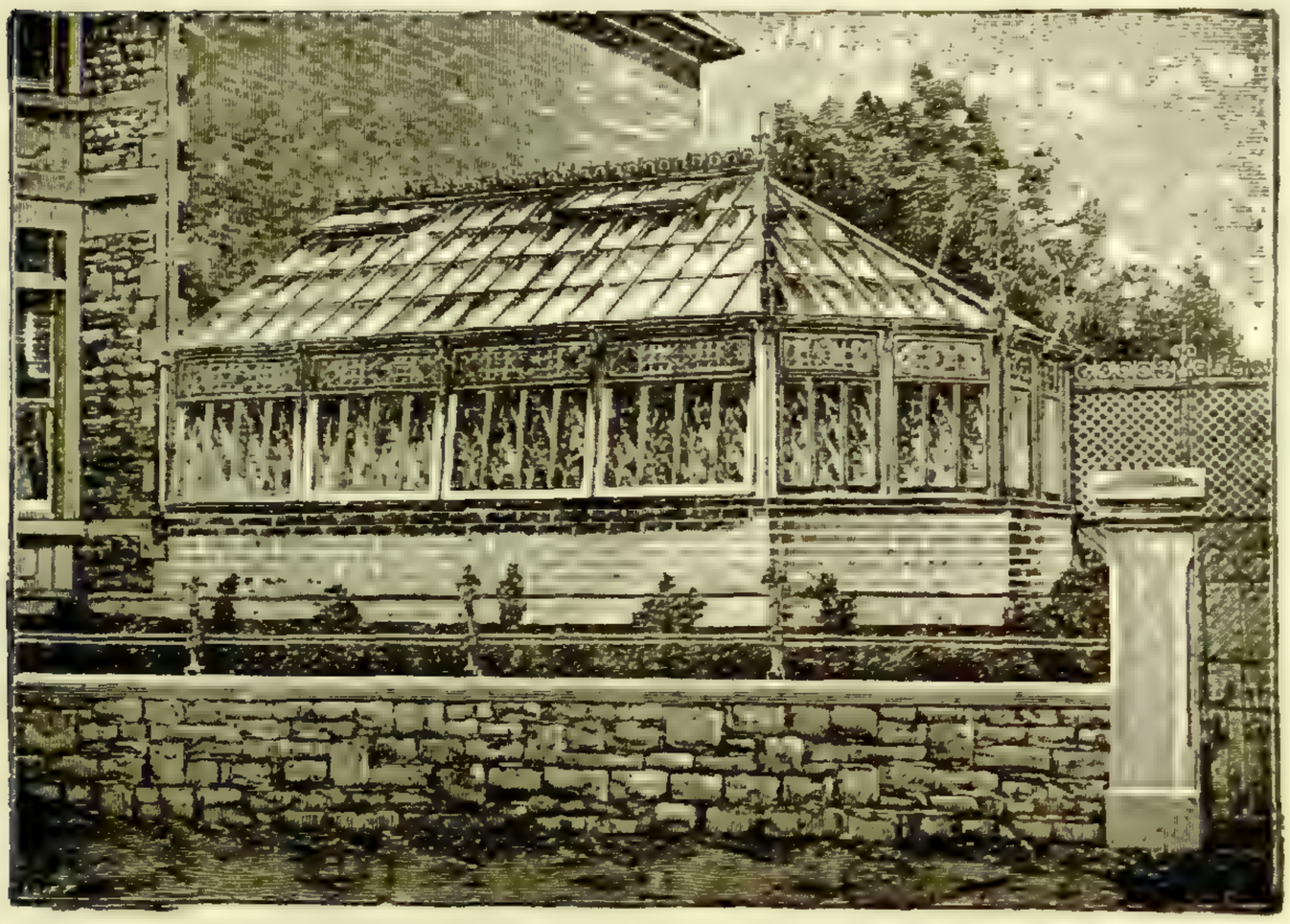

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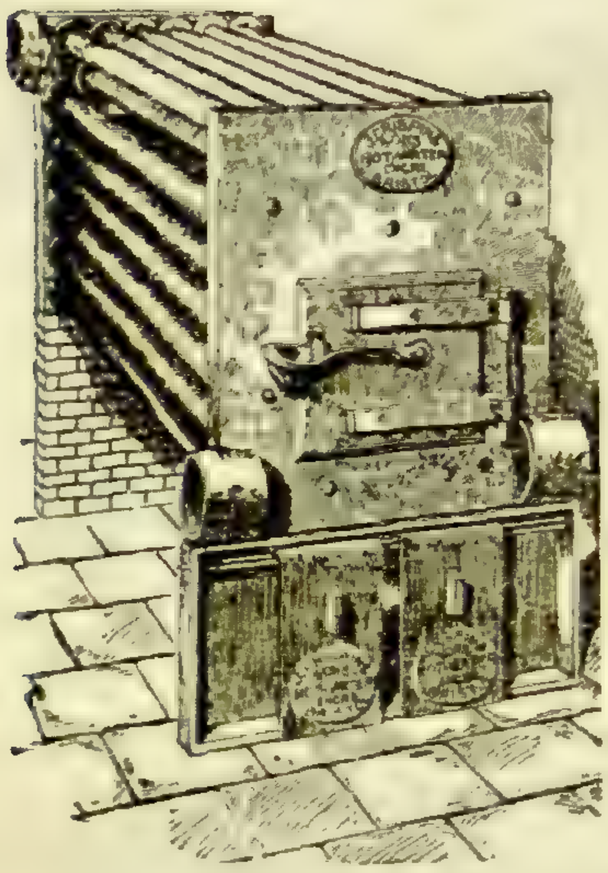

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An Illustrated Monthly Journal of Orchidology.

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VOL. XII.] *DECEMBER*, 1904. [No. 144.

CATTLEYA LODDIGESII AND C. HARRISONIANA.

ON several occasions during recent years we have had evidence of confusion between the above plants in gardens, and even of the names having been transposed, and the question has just cropped up again in a communication from Mr. Mackay, Orchid grower to the Right. Hon. J. Chamberlain, M.P. Mr. Mackay sends two flowers of what is correctly regarded there as the true C. Harrisoniana, and states that the point has been disputed. In short, he confirms what we have already had evidence of, that in some way importations of both species have been sold under wrong names. Perhaps an account of the history of the two species may serve to clear up the confusion pointed out.

CATTLEYA LODDIGESII may be traced back as far as 1819, when it was originally described and figured under the name of Epidendrum violaceum (*Lodd. Bot. Cab.*, iv., t. 337). It was then remarked: "This superb plant is a native of South America, and has been very lately introduced." Shortly afterwards, when Lindley established the genus Cattleya, on the now well-known C. labiata, he remarked: "The only other species of the genus with which we are acquainted is one which has been published by Mr. Loddiges, with the name of Epidendrum violaceum. We propose to call it Cattleya Loddigesii" (*Lind. Coll. Bot.*, sub t. 33). In the following number of the work the plant was figured (t. 37). In 1827 another figure appeared (*Hook. Exot. Bot.*, iii., t. 186), when its history was considerably extended, it being remarked: "Although recently figured by Mr. Loddiges, it was introduced for the first time into Great Britain at the Botanic Garden of Liverpool, from the neighbourhood of St. Paul's, Brazil, by Mr. Woodforde, as long ago as the year 1810. It blossomed there in 1811, and has done so every year since; and from it Mr. Shepherd believes have originated all the individuals that exist in other collections."

In 1843, a species was described under the name of Cattleya Arembergii (Scheidw. in *Allg. Gartenz.*, 1843, p. 109), whose identity remained uncertain for a long time, but Reichenbach at length obtained an authentic living flower from the collection of Prince Camille de Rohan, which proved

to belong to the preceding species (*Xen. Orch.*, ii., p. 32), as indeed the record in the original description of large lilac flowers, and stems eight inches long, seemed to indicate.

C. HARRISONIANA first made its appearance in 1836, when, in a note under plate 1919 of the *Botanical Register*, we find briefly described "C. Harrisoniana, Bateman in litt. . . . Brazil, Mr. Harrison." It was said to be very near C. Loddigesii, but to have the lip verrucose.

Two years later it was figured under the name of C. Harrisoniæ (*Paxt. Mag. Bot.*, iv., p. 247, with plate), when it was remarked: "We know nothing of the history of this plant, any further than that it has been several years in many orchideous collections, and originated in the first place, it may be presumed, in that of the late Mrs. Harrison." The differences between it and C. Loddigesii are also very fully pointed out, and in view of the confusion already alluded to may be repeated with advantage: "Among cultivators of Orchideæ, this superb plant has long been known as Mrs. Harrison's variety, having been considered merely a variety of the well-known species C. Loddigesii; but after repeated observations on these two plants when both in a high state of flowering, we feel satisfied that we have not done wrong in considering it in the light of a distinct species, and therefore have named it in compliment to the late Mrs. Harrison (the name it has gone under as a variety), of Aigburth, near Liverpool. The points wherein these two plants differ have been for such a length of time so perfectly constant, that the greatest reliance may with safety be placed upon them. They are chiefly to the following effect:—The stems of C. Loddigesii are more rounded, invariably stronger, and shorter than those of C. Harrisoniæ, which always appear more delicate, are less bulky, five or six inches longer; in the leaves there is a striking difference, those ot the former being firmer, broader, and always of a darker texture; but perhaps the most obvious disagreement will be found in the flowers, for while those of the former have the sepals and petals considerably reflexed downwards, and freckled as it were over every part except the lip, with small dark purple spots, those parts of the latter are scarcely at all bent, and entirely free from spots. In a word, so strikingly different is the aspect of these two plants, even when not in flower, that any one seeing them side by side would not for a moment question the propriety of considering them distinct species, upon the grounds set forth above."

In 1840 a note on the plant appeared under the name of C. Harrisonii (P. N. Don in *Florists' Journ.*, 1840, p. 183), in which it was remarked that it was not a variety of C. Loddigesii, as had been supposed, but a well-marked species.

In 1844 it was again figured and described, under the name of C. intermedia var. variegata (*Hock. Bot. Mag.*, t. 4085), from a plant which was

sent from Brazil by Gardner, and flowered at Kew in May, 1843. It has the long slender pseudobulbs, rich purple flowers, and typical corrugated yellow disc of the species.

A year later it received another name, being figured and described as C. Papeiansiana (C. Morren in *Ann. de Gand.*, i., t. 5). It had been introduced from Brazil, and flowered in the collection of Docteur Van Aken, of Ghent, and was dedicated to M. le Chevalier Théodore Papeians de Marchoven. The remark made of the preceding applies to this also.

In 1857 a fine figure of the plant appeared under its original name of C. Harrisoniana (*Journ. Soc. Imp. et Centr. d'Hort.* (Paris), iii. p. 725, t. 7), when Duchartre pointed out its characters very clearly. A fine figure also appeared in the *Paradisus Vindobonensis* (t. 21).

The early history of the species of this group has been terribly confused, and Lindley quite failed to grasp their characters in several instances, and to this may be traced much of the difficulty we now have to deplore. For example, in 1836 he described two species under the names of C. ovataa nd C. maritima (*Bot. Reg.*, sub t. 1919), and afterwards referred the former to C. Loddigesii, and while retaining the latter as distinct, added :—" Possibly it is one of the many varieties of C. Loddigesii (*l. c.* 1844, sub. t. 5). Reichenbach accepted this opinion, and Veitch naturally followed, yet both the plants are unmistakably C. intermedia, as Lindley's own type specimens prove. Worse than this, Lindley, while retaining C. maritima, reduced C. intermedia itself to C. Loddigesii (*l. c.*, sub t. 5). C. Harrisoniana, however, he retained as distinct, adding:—" I only know this plant from two flowers given me by Mr. Bateman " (*l. c.*, sub t. 5). These, fortunately, are the type specimens.

Under these circumstances it is not remarkable that the two species we are discussing should have been misunderstood, yet so far as gardens are concerned the confusion is of comparatively recent origin. At all events, Mr. Day knew the plants under their correct names, and so figured them, C. Harrisoniana in 1868 (*Col. Draw.*, xi., t. 89), and C. Loddigesii in 1873 (*l. c.*, xviii., t. 27). He also figured the chaste "C. candida," which he correctly remarked was a white variety of C. Harrisoniana. Under C. Harrisoniana occurs the following very interesting note :—" This plant was one of the first Orchids I had. I bought it of Mr. Conrad Loddiges, in 1852, being one of fifty good sorts which he sold me for £50, and his words were at the time of sale:—' Now I will send you such a selection as will make you an Orchid grower.' At the time I little expected how true his words would be." The variety candida was also included in the same lot.

It is not improbable that the latter variety originated some of the more recent confusion, for there is a very pale form of C. Loddigesii which opens white at first, gradually assuming a pale lilac colour afterwards, and this

has been more than once taken for the rare and much desired C. Harrisoniana candida. But whatever the cause it is certain that of late years C. Loddigesii often passes in gardens as C. Harrisoniana, and, as already pointed out, is sometimes sold under the wrong name, and it is to be hoped that the present article will serve to remove the misapprehension, and get the names righted.

R. A. ROLFE.

NEOMOOREA IRRORATA.

(*See* FRONTISPIECE).

THE frontispiece to the present volume represents a noble specimen of the striking Moorea irrorata, which flowered at Kew in 1901, and was noted at page 158 of our ninth volume. It is a noble specimen, bearing two spikes, of sixteen and eight flowers respectively. It is part of the original plant, which flowered in the Royal Botanic Garden, Glasnevin, in 1890, and was described as a new genus, being dedicated to Mr. F. W. Moore, the able Curator there (Rolfe in *Gard. Chron.*, 1890, ii., p. 7). Its origin was then not known, except that it had been purchased under the name of Lycaste gigantea, which was seen to be erroneous as soon as the spikes developed. Afterwards a fine leaf and inflorescence were found in a small collection of dried Orchids presented to Kew by Messrs. Charlesworth, Shuttleworth and Co., but it was unlocalised, and the precise habitat is still unknown. It can only be suggested as probably on the eastern slopes of the Andes, somewhere between Venezuela and Ecuador. Another plant was discovered in the Brussels Botanic Garden, though nothing is known as to how it got there. It is a noble plant, and when not in flower its handsome palm-like leaves are very effective. The spikes are produced with the young growths, and when developed are about two feet high. The flowers are about 2½ inches in diameter, and the sepals and petals are of a peculiar orange-brown shade, passing to yellowish white at the base, while the three-lobed lip is bright yellow, spotted with red on the front lobe and crest, and transversely barred with deep purple brown on the side lobes. The lip has been compared to the body and wings of a butterfly, owing to its peculiar shape and markings. It has been figured in the *Botanical Magazine* (t. 7262). The genus is most allied to Houlletia. The reason for the change of name has already been given (page 30), and it may briefly be repeated that the name Moorea properly belongs to the well-known Pampas grass (now recognised as a distinct genus), having been applied to it over forty years ago, but afterwards lost sight of. Those who have the good fortune to possess plants should be very chary how they divide, for both the Glasnevin and Kew plants were thus treated. and one half subsequently died in each case. Our figure is, of course, very greatly reduced.

STANHOPEA ANFRACTA.

THIS distinct and interesting Stanhopea has appeared again, a flower having been sent to Kew by Mr. J. O'Brien, of Harrow-on-the-Hill, who remarks that it was sent by the late Consul Lehmann, together with another which was doubtfully referred to S. Schilleriana, Rchb. f. It was formerly identified with S. Wardii var. venusta, and was so figured (Rolfe in *Lindenia*, vii. t. 315), but this afterwards proved to be erroneous. The habitat was not mentioned. This plant flowered with Messrs. Linden, of Brussels, in October, 1891. In the September following another plant flowered with Messrs. Charlesworth, Shuttleworth, and Co., Heaton, Bradford, and this was believed to have been collected in Ecuador or North Peru, by Hennis. In some respects it recalls a miniature edition of S. graveolens, having a similar but much smaller sac to the hypochil, but the whole flower is much smaller, the sepals not exceeding 1¾ inches in either of the three flowers mentioned. Another probably allied plant is S. cymbiformis, Rchb. f. (*Xen. Orch.*, ii., p. 84, t. 124), but the figure shows very pale yellow flowers, and the lip quite different in shape. In the present one the lip is remarkably zigzag in shape, in allusion to which the name is given. The upper half of the hypochil is suddenly bent at nearly right angles to the base, then the mesochil again bent at right angles, and the horns again bent at about the same angle as the upper half of the mesochil. The lip is very strongly constricted underneath, just in front of the sac. The flower is deep buff yellow, with a few brown spots on either side of the channel of the hypochil,—which latter is open from base to apex,—and a faint purple spot on either side near the base. The column is greenish, with narrow paler wings, which also bear a few purple spots. It is one of the smallest forms of the group to which it belongs.

R. A. ROLFE.

CALENDAR OF OPERATIONS FOR DECEMBER.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

TEMPERATURES for this month should range as follows, always allowing a rise with sun heat.

COOL HOUSE.—Day, 55°; night, 50°; morning, 48°.

INTERMEDIATE HOUSE.—Day, 60° to 65°; night, 55° to 60°; morning, 53° to 55°.

EAST INDIAN HOUSE.—Day, 65° to 70°; night, 60° to 65°; morning, 60°.

We are now in the depth of winter, and many Orchids are resting, while the growth of others seems almost at a standstill. Under such conditions, all good cultivators will be contented, their sole aim this month being to keep what growths the plants have already made in a sound and

healthy condition, rather than to increase the size of the plant. Keep the temperatures steady ; do not try to force matters by giving too much heat and moisture ; on the other hand, avoid any excess of aridity, for such is unnatural in their native habitats, and I know is harmful under cultivation. We must not forget that although it may not rain for many months during their dry season, the heavy dews at night serve to water and refresh vegetation, the air never becoming parched. It will, therefore, be necessary to damp down once or twice a day, as may seem necessary, and this will cause the hygrometer to register about three degrees below the temperature. It is exceedingly difficult at times to maintain an artificial atmosphere during the short dark days of winter, which is all that the inmates of the different departments require. We must, however, do our best to avert the casualties which might otherwise occur.

As to the best means of producing the most suitable conditions for the plants I can say but little more here. I may, however, just mention the matter of protection from cold during winter, which seems to be a most seasonable subject and one which should not be forgotten. Some growers, to assist in keeping up the temperatures in very cold weather, and at the same time to economise fire-heat, leave their blinds up all the winter, so that they can be lowered at night for this purpose. It frequently happens when used in this way, that they are frozen stiff and cannot be pulled up until late in the day, thus losing the benefit of the light, which is of so much importance to them. It is far more economical to have them taken off, and thoroughly dried, and stored away until required again. To cover the roof glass with Archangel mats, or something similar, during rigorous winter weather, especially at night time, is not only a great saving in fuel, but at the same time results in much more healthy conditions within the house. The ends of the structure also, which are of glass, are sometimes fearfully cold and damp places, and although light is always of great importance, yet I do not hesitate for one moment, when necessary, to mat up such ends permanently during the worst winter months. The roof covering should, for obvious reasons, be conveniently arranged for putting on and off night and morning. They should be secured in windy weather, and if during the night they become wet or frozen, they should be thawed and dried before using again.

During this month flowers are naturally scarce, and those which bloom this month are highly prized. It is fortunate that there are a good many species to come in at this dull period. The Cattleyas labiata and Bowringiana, being now practically over, are replaced with the deciduous Calanthes, which will, together with the Mexican Lælias, continue to make a very effective show for some time to come. Cypripediums perhaps have the pride of place. These, coming and flowering as they do at this season,

are particularly welcome for brightening up the Orchid House; for this reason alone they are, and should be, grown in quantity.

Brassias, I think, are a little neglected in cultivation, and rarely does one see them represented very strongly. True, the flowers of some species are of a somewhat sombre hue, but there are others, which are most striking, and always sure to attract attention, even if surrounded with flowers of more brilliant colours. B. brachiata is one of these, as are also B. maculata, B. verrucosa, B. Lawrenceana, and B. caudata. The culture of Brassias is very simple. Their requirements are those of the Oncidiums, and the po ition given should be one at the warmest end of the Intermediate or Cattleya House.

Cattleya Percivaliana, which is the first of the labiata section to flower in the new year, is now commencing to push its flower spikes, and should be given a light position in the Warm house until the flowers have expanded, for it often happens if this precaution is not taken that the flower buds turn yellow and die long before they can emerge from the sheath. This premature decay shows that the ordinary Cattleya house is hardly warm enough for this species at this season.

Cymbidium giganteum is now in bloom. It is splendid to grow for winter blooming, and if it is kept fairly dry the flowers last a very long time in perfection. C. Mastersii and C. elegans are also flowering, while C. eburneum and C. Lowianum are just pushing forth their flower spikes. Cymbidiums do not take kindly to root disturbance, and are usually some little time before they finally recover from the effects of repotting. This operation must, of course, be done occasionally, but they should not pass through that operation before it becomes really necessary. When done, it is best performed in the spring months, using a compost of fibrous loam and peat in equal proportions, with sharp silver sand. They should be watered with great moderation during the winter months, and placed at the coolest end of the Intermediate or Cattleya house.

Dendrobiums are now resting, and it is well that they should be inactive at this time of the year, and not be unduly excited until the days begin to lengthen and the sun gain power. No good purpose can be served by trying to force them to flower in mid-winter. For the cool resting kinds, guard against the possibility of the temperature becoming too cool, for if this happens the plants, although showing no outward signs of injury at the time, are greatly weakened, and often collapse during the following growing season. From 50° to 56° is a suitable temperature to aim at. The thermometer will, of course, fall below and rise above for short periods, which will do no harm. Those plants which were the first to mature their pseudobulbs will naturally be the first to produce flower buds, and when this is seen, they should be given slight encouragemeet, so that they

gradually grow and expand. D. Wardianum should be kept back more than any other, and not allowed to flower before March, if possible. There are some few Dendrobes which are never really at rest, but are continually growing. Such as D. sanguinolentum, D. × rhodostoma, D. Dearei, D. Hookerianum, and D. Maccarthiae. These, and other similar kinds, should be allowed to grow gently on, and not be rested in the same way as the others.

The pretty little Sophronitis grandiflora will soon expand its bright coloured blossoms. I have previously advised a slightly warmer temperature than that afforded in the coolest house for this, which is well suited in a shady and very moist house. The species of Sophronitis do not take well to root disturbance, but re-potting has to be done occasionally. Small pans or baskets are the best, and re-potting should take place as soon as the flowers have faded.

In the East Indian House, the Phalænopsis will be pushing flower spikes, but careful watering here must prevail. It is, no doubt, thought sometimes that Orchids like these, having no pseudobulbs, cannot successfully withstand so much drought as those which have. Doubtless this is true, yet it is remarkable what a little water is really necessary for the wants of pseudobulbless Orchids during the winter or resting season. They should not be dipped or otherwise soaked with water, a slight surface wetting, and the sides of the receptacles moistened occasionally, being the safest plan. The spikes should not be allowed to remain on too long, especially on small weakly plants, as nothing tends to weaken their constitution so much as over-flowering. The safest plan is to cut off the spikes immediately the terminal bud has opened.

WINTER TREATMENT OF BOLLEAS.—Speaking of the winter treatment of certain Orchids in the *Journal of Horticulture*, "H. R. H." remarks that those restless plants, the Pescatoreas, Bolleas, Huntleyas, and Batemannias are still active, and require a moist warm atmosphere. They seem to delight in a regular and constantly moist house all through the year, where the temperature never rises much above 75deg. or falls below 60deg. In summer they delight in a broken light rather than a dense shade, but now they need every ray of light they can get, and in consequence must be arranged near the glass, this in its turn being kept perfectly clear. They are very subject to red spider attacks, which turn the bright green foliage a pale sickly hue, consequently the sponge must be freely used. It is too late now to repot them, and if the moss has grown too strongly about the roots, a little of it should be removed, as it is apt to become sodden from the atmospheric moisture.

CATTLEYA BOWRINGIANA.

WE forward you by same mail a photograph of an inflorescence of Cattleya Bowringiana carrying forty-seven flowers. We have frequently had spikes carrying twenty-five to thirty flowers, but think the present number rather unusual, and we should like to know if it has been exceeded on many occasions. The plant producing this spike is growing in a 15in. pan, in a light position in the Cattleya house. It carried a number of other spikes with an average of twenty-five flowers each, in addition to one or two

FIG. 49.—CATTLEYA BOWRINGIANA.

small ones, of which one shows in the photograph. This plant, like all our Cattleyas and Lælias, is grown in good Osmunda fern fibre, collected on our own estate in quantity. In some cases we use a little sphagnum mixed with the fibre, but find no special advantage from doing so. We have experimented a good deal with leaf mould of various brands, on practically all classes of Orchids, including Odontoglossums, Miltonias, Cypripediums, Dendrobes, Phalænopses, and other species, but never found any advantage from its use, and so abandoned it. In fact, many plants deteriorated very

much, and that under the most careful treatment. We have yet to see as fine specimens of any of the genera named grown in a leaf-mould mixture as are grown in our native fern fibre. Up till three years ago we had a huge plant of C. Bowringiana grown in a basket, which annually produced about six hundred flowers, the largest specimen we have seen. It became rather unwieldy, and was divided up into moderate-sized plants, which are more serviceable. It requires something more than clean water to produce Cattleyas of this calibre. We use sheep and cow manure water, as well as Cookson's formula. Some growers decry the use of stimulants for Orchids; we find they need a good deal of liquid food in America, and the idea held in some quarters that feeding is injurious does not apply to the land of the Almighty Dollar.

WILLIAM N. CRAIG.

F. L. Ames' Estate, North Easton, Mass., U.S.A.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of the R.H.S. was held at the Royal Horticultural Hall, Vincent Square, Westminster, on November 1st, when there was a magnificent display of Orchids, one of the finest ever seen in November, and no less than ten medals were awarded for groups.

J. Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), staged a large and magnificent group, to which a Gold Medal was awarded. It contained numerous examples of good culture, and among the more noteworthy plants were three fine specimens of Cymbidium Tracyanum, C. elegans, C. × Winnianum, Cattleya labiata alba and numerous fine coloured forms, C. × Minerva lilacina, C. × Mantini nobilior, C. × John Baguley, C. × Miss Williams, C. Bowringiana lilacina, C. Dowiana, Spathoglottis × aureo-Kimballiana, two forms of the true Spathoglottis aurea, one of them being a home-raised seedling, the handsome Lælio-cattleya × Colmaniana, Lælia Perrinii, L. Dayana, and some good forms of L. pumila, including several of the pretty Gatton Park variety, in which the purple of the lip is replaced by a shade of slate-blue, Epidendrum fragrans, E. ciliare, Dendrobium Phalænopsis, the brilliant Sophronitis grandiflora, Oncidium ornithorrhynchum album, O. varicosum Rogersii, Calanthe × Veitchii and C. vestita luteo-oculata, Masdevallia Davisii, M. cucullata with eight flowers, Restrepia erythroxantha and R. maculata, Odontoglossum tripudians bearing a spike with four side branches, Cypripedium insigne Sanderæ and other good forms, C. × Arthurianum, C. × nitens, C. Rothschildianum, and numerous others.

J. Bradshaw, Esq., Southgate (gr. Mr. Whitelegge), received a Silver-gilt Flora Medal for an excellent group, in which some good forms of

Cattleya labiata were conspicuous, including about eight charming forms with white sepals and petals, and an exceptionally fine dark form, called var. Ruby. There were also many beautiful forms of C. × Mantini, profusely flowered, Lælio-cattleya × luminosa, a fine dark L.-c. Ingrami, L.-c. × Henry Greenwood, a remarkably dark form of Cymbidium Tracyanum, C. giganteum, Lycaste Skinneri alba and some charming coloured forms, the very beautiful Oncidium Forbesii Bradshawiæ, three fine examples of Masdevallia Veitchiana, Odontoglossum grande, and others.

R. Briggs-Bury, Esq., Accrington, received a Silver Banksian Medal, for a choice group, including two beautiful white forms of Cattleya labiata alba and Gilmouriæ, the remarkable dark striped C. l. Peetersii, Lælio-, cattleya × Rosalind, Cypripedium × triumphans magnificum, two good C. × Maudiæ, and a handsome hybrid from C. × Leeanum magnificum and C. × Sallieri Hyeanum.

H. S. Goodson, Esq., Putney (gr. Mr. Day), also received a Silver Banksian Medal for an effective group, in which Cypripediums were conspicuous, and included C. insigne Sanderæ, and other varieties, some good C. × Leeanum, C. × Argo-tonsum, C. Haynaldianum, &c., also Lycaste costata, L. Skinneri, L. S. alba, Maxillaria picta, Cattleya × Portia, &c.

N. C. Cookson, Esq., Wylam-on-Tyne (gr. Mr. Chapman), sent Cypripedium × The Pelican, (Sandero-superbiens × Rothschildianum), a hybrid somewhat approaching C. Sanderianum, but larger, and C. × W. R. Lee Oakwood raised variety, the latter an exceptionally fine form which gained an Award of Merit.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), received an Award of Merit for Lælio-cattleya × Digbyano-Warneri, a handsome hybrid, with bright rose flowers, and a yellowish white disc to the beautifully fringed lip.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Gilbert), received an Award of Merit for Cattleya labiata Mrs. F. Wellesley, a beautiful plant bearing two spikes of four and five flowers, the colour delicate blush-rose, with a silvery white area on the lip in front of the light yellow disc.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, received a Botanical Certificate for Liparis fulgens, which is remarkable in the genus for having red flowers, which are borne in a graceful erect raceme.

The Hon. Walter Rothschild, M.P., Tring Park (gr. Mr. Dye), sent a very interesting little group, to which a Vote of Thanks was accorded. It contained a good plant of the handsome Cirrhopetalum Rothschildianum, the remarkable Masdevallia trinema, a fine specimen of Arundina chinensis, Trichosma suavis, Bulbophyllum rufinum, Cattleya Bowringiana concolor, Brassocattleya × heatonensis, the curious little Pleurothallis Smithiana, and Octomeria geraensis.

Miss Violet Fellowes, Shotesham Park, Norwich (gr. Mr. Smith), showed a good dark form of Cattleya labiata.

H. L. Bischoffsheim, Esq., Stanmore (gr. Mr. Ellis), sent a pretty white form of Dendrobium Phalænopsis.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a remarkably fine group, consisting principally of hybrids, to which a Silver-gilt Flora Medal was given. It contained a good example of the brilliant Sophrocattleya × Nydia, some fine Vanda cœrulea, a beautiful form of Odontoglossum crispum very regularly blotched on the sepals and petals, Cattleya × Mantini, C. × Lord Rothschild, C. × Fernand Denis, C. × Vulcain, C. × Germania, the beautiful greenish-white Brassocattleya × Digbyano-Mossiæ Queen Alexandra, Cypripedium × Sir Redvers Buller, C. × Niobe, C. × Madame Jules Hye, C. × Lord Coulson (× Leeanum virginale × Charlesworthii), very bright in colour, Promenæa lentiginosa, exhibited as a supposed natural hybrid between P. xanthina and P. stapelioides, Lælio-cattleya × Sunray, L.-c. × Haroldiana, L.-c. × luminosa, and numerous other interesting things. A First-class Certificate was given to L.-c. × Cappei Charlesworth's var., a remarkably large and richly coloured form, and an Award of Merit to L.-c. × illustris (L. × Latona × C. Dowiana aurea), a handsome thing, having the flowers deep yellow somewhat veined with rose, and the lip rich claret-crimson.

Messrs. Sander & Sons, St. Albans, received a Silver Flora Medal for a large and handsome group, including a fine Cymbidium × Winnianum (Holmesii) bearing several spikes, C. Tracyanum with three spikes, the handsome Pescatorea Klabochorum, Cypripedium × nitens Perfection, a very fine form, C. × Stanley Rogerson (Charlesworthii × callosum), a striking flower having the dorsal sepal white tinged and lined with rose, C. × Clio (insigne × Lynchianum), Lycaste Skinneri alba, two fine Cycnoches chlorochilon, Miltonia candida grandiflora, M. × Bluntii Lubbersiana, Cattleya × Neptune (Schilleriana × labiata), and various other fine things. Awards of Merit were given to C. labiata Miss Kate Brazier, a large and beautiful white form, having some light purple markings on the lip in front of the light yellow disc, and C. × G. W. Schofield (C. labiata Cooksoniana × Lord Rothschild), a fine light coloured flower, having the front lobe of the lip rich crimson purple with a lilac crisped margin, and some yellow markings on the disc.

Messrs. James Veitch & Sons, Chelsea, staged a good group of showy hybrids, to which a Silver Banksian Medal was awarded. It included the handsome Cattleya × Mantini, C. × Mrs. J. W. Whiteley, C. × Portia, Lælio-cattleya × Terentia, L.-c. × Bryan, L.-c. × Haroldiana, L-c. × Decia, L.-c. × Digbyano-Warscewiczii, Lælia × Digbyana-purpurata, L.-c. × bletchleyensis, L.-c. × Acilia, L.-c. × Tenos (C. Bowringiana ×

L.-c. × Nysa), a richly coloured hybrid, most like the Bowringiana parent, but with two yellow eyes on the disc, Cypripedium × Thalia, Sophro-cattleya × Atreus (S. grandiflora × C. Lawrenceana), a bright reddish purple hybrid, &c.

Messrs. Hugh Low & Co., Bush Hill Park, also gained a Silver Banksian Medal for a very pretty group, including some fine forms of Cattleya labiata, C. × Maroni, C. Bowringiana, with six spikes, C. × Parthenia Prince of Wales, Vanda Kimballiana, Brassolælia × Mrs. Gratrix, a charming specimen of Masdevallia tovarensis, four plants of Oncidium cheirophorum, Ionopsis paniculata, Trichopilia tortilis, T. coccinea, Warscewiczella Wailesiana, &c.

Messrs. J. and A. A. McBean, Cooksbridge, also obtained a Silver Banksian Medal for a fine group, including some good examples of Odontoglossum crispum, Dendrobium Dearei, a fine Cymbidium Tracyanum, Cattleya × Mantini, some fine C. Bowringiana, Cypripedium Charlesworthii, C. × Leeanum giganteum, C. insigne Sanderæ, C. i. Harefield Hall var., &c. A Cultural Commendation was given to a fine specimen of C. × Morganiæ, bearing five spikes and an aggregate of sixteen flowers.

Messrs. Stanley & Co., Southgate, also received a Silver Banksian Medal for a bright group, including some good Cattleya labiata, C. Loddigesii, C. × O'Brieniana, C. × Mantini nobilior, C. × Mary Gratrix (granulosa Schofieldiana × Harrisoniana), Odontoglossum × loochristiense, Epidendrum vitellinum, Lælio-cattleya × elegans Turneri, Miltonia Regnellii Crashleyana, M. × Cogniauxiæ, Scaphosepalum ochthodes, &c.

AT the meeting held on November 15th there was a large and brilliant display, five groups receiving medals, and the first-mentioned was remarkable in every respect.

G. F. Moore, Esq., Bourton-on-the-Water, Glos. (gr. Mr. Page), staged a large group on the broad staging at the end of the Hall, which was remarkable alike for quality, excellence of culture, and floriferousness, and to which the Orchid Committee unanimously awarded the Society's large Gold Medal, and recommended that the Lindley Medal should also be given for such excellent culture. The group contained about four hundred specimens, and was most tastefully arranged, and set up with moss and small ferns at the back, and with graceful foliage plants behind. Cypripediums were in the majority, but were broken up by groups of Dendrobium Phalænopsis, Oncidium varicosum, Cattleya labiata, and some other showy things, including a brilliant form of Epidendrum × O'Brienianum and Phaiocymbidium × chardwarense. Dendrobium Phalænopsis was represented by the varieties rubescens, highburiense, exquisitum, a bright purple form, and the pure white holo-

leucum, and the Cypripediums included the fine C. × Priam, C. × Leeanum giganteum and other fine varieties, C. × microchilum, C. × Lathamianum giganteum, C. × Nandii, C. × Olivia, C. × Actæus Chardwar var., and others, together with about 120 fine forms of C. insigne, noteworthy examples being the varieties Sanderæ, with over a dozen flowers, Dorothy, with eight, Harefield Hall, with three, Oddity, with three lips, and others too numerous to mention, both yellow and spotted. An Award of Merit was given to C. i. sylhetense giganteum, a large, well-shaped form, having a broad, blotched dorsal sepal, with a large, white area at the apex. The bringing of this large collection from such a distance at this season of the year must have been a feat of considerable difficulty, and no wonder that the group was greatly admired.

N. C. Cookson, Esq., Wylam-on-Tyne (gr. Mr. Chapman), sent Cypripedium insigne Sanderæ Oakwood seedling, C. × Niobe, Oakwood-raised var., with several fine blooms, C. × Actæus aureum, C. × A. punctatissimum, Cattleya labiata oakwoodiensis, a finely flowered specimen, which gained a Cultural Commendation, and Odontoglossum × Andersonianum Crawshayanum, a very large and handsome form, showing much of the character of O. crispum, to which a First-class Certificate was awarded.

Captain G. L. Holford, Westonbirt, Tetbury (gr. Mr. Alexander), received a First-class Certificate for Cypripedium × Niobe Westonbirt var., a fine round flower, having the dorsal sepal handsomely veined with rose purple, on a white ground, and an Award of Merit for C. × triumphans magnificum (× Sallieri × œnanthum superbum), a very fine form, having the dorsal sepal heavily blotched with purple-brown on a greenish ground, and the petals and lip richly shining chestnut-brown.

D. O. Drewett, Esq., Riding Mill on Tyne (gr. Mr. Renwick), sent six seedlings raised between Cypripedium insigne Maulei and C. i. punctato-violaceum.

Mrs. T. Fielden, Tadcaster (gr. Mr. Clayton), sent a good specimen of Cattleya labiata.

Mrs. Hollond, Wonham, Bampton (gr. Mr. Austin), sent a flower of Cypripedium × Nina E. Hollond (insigne superbum × Lathamianum).

C. J. Lucas, Esq., Horsham (gr. Mr. Duncan), sent Læliocattleya × Cordelia (L. Dayana × L.-c. × T. W. Bond), L.-c. × Angela (L.-c. × exoniensis × L. præstans), and Sophrocattleya × warnhamensis (C. amethystoglossa × S. grandiflora), an elegant little plant, with pretty rose-coloured flowers.

Mrs. Nickalls, Pattison Court, Redhill, showed a good Stanhopea oculata.

F. A. Rehder, Esq., Gipsy Hill (gr. Mr. Norris), sent Cypripedium × Ernesto, C. × Adrastus inversum, and C. × Hitchinsiæ (insigne Chantini × Charlesworthii album).

W. Thompson, Esq., Stone (gr. Mr. Stevens), sent Odontoglossum crispum William Stevens, a handsomely blotched home-raised form.

F. Wellesley, Esq., Woking (gr. Mr. Hopkins), sent Læliocattleya × Norba superba, Cypripedium insigne Mrs. F. W. Moore, and C. i. citrinum Truffautianum, two good yellow forms, also two finely coloured varieties of Cattleya labiata, called Minnie and Westfield var.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for an excellent group, including the richly coloured Cattleya labiata King Edward VII., and other showy forms, some good hybrid Calanthes, fine forms of Cypripedium insigne and C. × Leeanum, C. × Orion var. bellum (concolor and insigne Sanderæ), cream white densely spotted with purple, the handsome C. × Mary Beatrice, and some fine forms of C. × Helen II. (insigne × bellatulum). A First-class Certificate was given to a fine form of the latter, called var. Fascinator, a large and handsome cream-yellow flower heavily marked with purple, especially on the dorsal sepal.

Messrs. Hugh Low & Co., Bush Hill Park, staged a fine showy group, which gained a Silver Flora Medal. It contained the handsome Læliocattleya × Statteriana, L.-c. × Lady Rothschild, L.-c. × Decia and its beautiful variety alba, Cypripedium insigne Harefield Hall var., with four flowers, C. × Tityus, C. × Don Carlos (? Charlesworthii × Lathamianum), having the dorsal sepal handsomely blotched with rose, Cattleya × mollis, C. × Maroni, C. Dowiana, C. labiata Amesiana, &c. An Award of Merit was given to C. l. reedleyensis, a beautiful white form tinted with faint pink in front of the yellow disc of the lip.

Messrs. Charlesworth & Co., Bradford, received a Silver Flora Medal for a very rich group, containing several good Cattleya Vulcain, C. × Portia, C. × Fernand Denis, C. × Clarkiæ, a fine Læliocattleya × Violetta, L.-c. × bletchleyensis, six richly coloured L.-c. × luminosa, Lycaste × Tunstillii, Trichopilia suavis, Vanda cœrulea, some good Cypripedium × Leeanum, C. × Hitchinsiæ, C. × Milo, C. insigne trisepalum, having the lateral sepals free, enlarged, and much spotted, &c.

Messrs. James Veitch & Sons, Chelsea, also received a Silver Flora Medal for a fine group of hybrid Cattleyas and Læliocattleyas, the more noteworthy being Cattleya × Wendlandii, Læliocattleya × Tenos (C. Bowringiana × L.-c. × Nysa), L.-c. × leucoglossa, L.-c. × bletchleyensis, some good L.-c. × Decia, and other Lælia Perrinii crosses, among which the new L.-c. × Ægina (L. Perrinii × C. × Hardyana) was very promising, the form being good, and the sepals and petals lilac, with a rich purple lip.

Messrs. Hooley Bros., Bitterne Park, Southampton, sent a pretty little group, consisting of Cypripedium insigne Sanderæ, good coloured forms of Cattleya labiata, and two white forms tinged with pink on the lip.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of the Manchester and North of England Orchid Society was held at the Coal Exchange, Manchester, on November 10th, when there was a small display of choice things.

E. Rogerson, Esq., Didsbury (gr. Mr. Blomley), staged a very fine group, to which a Silver-gilt Medal was awarded. A First-class Certificate was given to Lælio-cattleya × rubens var. Miss Rogerson (Lælia pumila præstans × Cattleya Hardyana alba), a very handsome form, and Awards of Merit to Cattleya × Fabia and C. × fulvescens.

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), received an Award of Merit for Cattleya labiata var. Lady Duff, a beautiful form with white sepals and petals, and a delicately coloured lip, and an Award of Merit for Cypripedium × Thalia West Point var.

Dr. Hodgkinson, Wilmslow (gr. Mr. Woore), received a First-class Certificate for Cattleya × Fabia var. Dorothy.

T. Statter, Esq., Whitefield (gr. Mr. Johnson), exhibited a small group of Cypripediums, to which a Vote of Thanks was accorded.

Messrs. Sander & Sons, St. Albans, received an Award of Merit for Læliocattleya × Arderniæ (L. Digbyana × L.-c. × callistoglossa), a very fine thing.

Messrs. A. J. Keeling & Sons, Bradford, received an Award of Merit for Cypripedium insigne var. aureola, one of a small group exhibited.

Mr. W. Holmes, Timperley, exhibited a plant of Cymbidium × Holmesii, a form of C. × Winnianum, bearing two spikes.

IMPORTED ODONTOGLOSSUMS.

WRITING on imported Odontoglossums in a recent issue of the *Gardener's Chronicle* (p. 322), "*Odontoglot*" remarks:—"We have recently potted up and grown on some thousands of Odontoglossum crispum of all sizes. As a result I wish to advise my fellow amateurs to be patient, and not to leave more than one flower on unestablished plants. One flower, or rather bud, may possibly mature, but it is scarcely to be hoped that more than fifty per cent. of the plants will produce anything but abortions. This, of course, means an unnecessary weakening of the already weak plants. I remove all but the lowest bud, and find this the best. It is natural for one to try and see what his purchase is likely to produce, but patience is everything, and immediately the flower is sufficiently expanded to be labelled it should be taken off. I am trying oak-leaf mould. It will, I fear, mean more frequent disturbance for repotting than when using peat." We would suggest the advisability of trying a mixture of the two materials, as well as of using them separately.

CYMBIDIUM × EBURNEO-LOWIANUM.

THE annexed figure represents a noble specimen of Cymbidium × eburneo-Lowianum, from the collection of Captain G. L. Holford,

FIG. 50. CYMBIDIUM × EBURNEO-LOWIANUM.

Westonbirt, Tetbury, and is reproduced from a photograph kindly sent for this purpose. Mr. Alexander writes that the plant is grown in a

sixteen-inch pot, and bore fifteen spikes and an aggregate of seventy flowers, the best spike carrying seven flowers. It is a picture of health and vigour, and although the figure is necessarily greatly reduced, one can readily imagine the effect produced by such a specimen. The hybrid is too we l known to require description, and we may congratulate Captain Holford and his able Orchid grower on such a notable example of good culture.

PAPHIOPEDILUMS FROM BURY.

O. O. WRIGLEY, Esq., Bridge Hall, Bury, writes:—"It may interest you to learn that I have had a very fine display of Cypripedium insigne blooms since the commencement of the present month, and I have very great pleasure in informing you that I have instructed my head gardener to cut, label, and forward to you samples of the very choicest varieties among those I grow. Each bloom will be labelled, so that you may know the name by which we distinguish it from the numerous varieties which I possess. I think I have previously drawn your attention to the wonderful fog-resisting property which this, my favourite Orchid, possesses in an astonishing degree. During the course of a fairly long life, I have never experienced such a continual succession of the worst type of fogs as we have been afflicted with during the past three weeks, and yet my Cypripedes have passed through the ordeal without any material damage, and have kept on smiling as if they were enjoying the experience. It may interest you to know that I have close on 1,300 Cypripedium blooms now open or just expanding their flowers, and the greater number belong to the insigne family or their hybrids."

The flowers sent form a magnificent series, which for beauty of form, colour, and robustness of growth it would be difficult to surpass. The insignes form a remarkable series. The yellow forms include Sanderæ, still the best, Sanderianum, Lutwycheanum, Ernestii, Balliæ, Youngianum, Dorothy, Lindenii, Amesiæ, Cobbianum, and Wm. Millie Dow, all but the three first having what may be termed traces of the usual spots, but more than half obliterated. Among spotted forms, in which the spots scarcely extend beyond the green area, we have the old insigne, and the varieties Wrigleyanum, a very fine form, having the white area broader and the spots twice as large, magnificum with still larger spots, smaragdinum with spots rather few and pale, and three others. Of those in which the green area shrinks, leaving some clear purple spots on the white ground, there is a still finer lot, including the well-known punctato-violaceum, tessellatum, more compact and very closely spotted, marmoratum, Thompsonianum, ornatum, exquisitum, having few large spots in the centre, and many small

ones at the sides, nearly half of which extend into the white, Dormanianum, Green Bank var., with many small spots, half of which are purple, owing to the restricted green area, Berryanum, a striking form described at page 18, and six others, beside the magnificent Harefield Hall var., in which the culminating point of development is reached, the flower measuring $5\frac{3}{4}$ inches in diameter across the petals, while the dorsal sepal is three inches broad. Lastly, the variety corrugatum is remarkable for its corrugated lip, and Oddity (figured at p. 57 of our eighth volume), for its lip-like petals.

The rest are hybrids. P. × Leeanum is represented by eight beautiful forms, including superbum, giganteum, Clinkaberryanum, having a still broader dorsal sepal, and many minute purple dots, virginale, very slightly spotted, conspicuum, &c. A seedling of uncertain parentage is like a small, unspotted Leeanum, such as might be expected from re-crossing with P. Spicerianum. P. × Arthurianum and its variety pulchellum are too well-known to require description, were space available, but three forms of the latter are sent to show that no two are alike, presumably seedlings out of the same batch. P. × nitens Wrigleyanum is excellent in form, and the spots on the dorsal sepal are very small and dense, while in P. × n. aureum they are over twice as large and not half as numerous, and there is a tinge of yellow in the ground colour. Other striking forms are P. × Minos, P. × Buchanianum, two forms of P. × aureum, the handsome P. × Tityus. P. × Madame Jules Hye, and the richly-coloured P. × calloso-Warneri. Finally must be mentioned two interesting seedlings. The first is from P. × Mons. de Curte × Argus, and bears a close resemblance to P. × Murillo, having both the dorsal sepal and petals very heavily blotched with blackish brown. The other is derived from P. tonsum × niveum, but has reproduced the former pure and simple. Whether it represents one of those mysterious "false hybrids" or not is at present uncertain.

Mr. Wrigley and his able gardener, Mr. Rogers, must be congratulated on their success in cultivating this beautiful group.

ORCHIDS IN SEASON.

A MOST beautiful albino, bearing the name of Cattleya labiata alba, Mundham variety, is sent from the collection of the Rev. J. C. B. Fletcher, Mundham Vicarage, Chichester. The flower is of excellent shape, and the petals over $2\frac{1}{4}$ inches broad, the colour being pure white, with the usual deep yellow blotch on the disc. It is a very charming form.

A five-flowered inflorescence of the beautiful Cattleya labiata Mrs. Francis Wellesley, to which an Award of Merit was given by the Royal Horticultural Society on November 1st, is sent from the collection of F. Wellesley, Esq., Westfield, Woking. The colour of the flowers is delicate

rosy blush, with the front of the lip paler, or what has been described as silvery white, with the usual yellow disc. Mr. Wellesley remarks that the plant came from an importation by Messrs. Stanley, Ashton and Co., and has produced nine flowers on two spikes.

Several interesting flowers are sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. H. Haddon, Mr. Neale's gardener. They include flowers of the dark purple Dendrobium Phalænopsis Statteriana, and Miltonia spectabilis Moreliana, two of the most effective of autumn-flowering Orchids, together with the graceful Platyclinis Polystachya laxiflora, Camaridium ochroleucum, Liparis longipes, and the curious little Pleurothallis tridentata.

Flowers of a handsome hybrid derived from Lælia pumila præstans × L. anceps Schrœderiana are sent from the collection of the Right Hon. J. Chamberlain, M.P., by Mr. Mackay. It must be considered as a form of Lælia × amœna, which was raised in the collection of C. L. N. Ingram, Esq., and flowered for the first time in 1894. The flowers sent are large and handsome, having an expanse of six inches from tip to tip of the petals.

Flowers of several very beautiful hybrids are sent from the collection of Sir James Miller, Bart., Manderston, Duns, N.B., by Mr. Hamilton. Cattleya × Mantinii is represented by a beautiful inflorescence, and C × Mrs. J. W. Whiteley is a still finer thing, in which C. Dowiana is replaced by C. × Hardyana, both being too well known to require description. Another handsome hybrid of Cattleya Bowringiana must be considered as a form of Læliocattleya × Bowringiano-Clive, being derived from the same parentage. It is much like the Cattleya parent in general character, and the colour is very deep rose purple, with the disc of the lip blackish purple, without any yellow. A handsome inflorescence of Læliocattleya × Clonia is also enclosed.

Several handsome Paphiopedilums are sent from the collection of J. H. Grogan, Esq., Slaney Park, Baltinglass, Co. Wicklow (gr. Mr. H. Cooper). P. insigne Sanderæ is a splendidly developed flower of this beautiful variety. P. × Sir Redvers Buller is a very fine flower, having the dorsal sepal and base of the petals prettily spotted. Mr. Grogan remarks that it has been out some weeks. The others are a very good flower of P. Charlesworthii and a fine P. × Leeanum, having very minute dusky dots on the green area at the base of the dorsal sepal. All are excellent examples of good culture.

Several beautiful flowers are sent from the collection of J. Leemann, Esq., West Bank House, Heaton Mersey, by Mr. Edge. Lælio-cattleya × luminosa and its variety Amy Leemann are two fine hybrids between Lælia tenebrosa and Cattleya Dowiana aurea. The latter variety is a very

beautiful form, having bright buff-yellow sepals and petals, and a ruby-purple lip. The other is more buff, and has a much paler lip. A form of Paphiopedilum × Richmanii is extremely handsome, both shape and colour being excellent. It is sent as a hybrid between P. bellatulum and some unknown parent, but a comparison shows that it is a form of the one mentioned above. There is also a very fine form of P. insigne, having the dorsal sepal 2½ inches broad, and the blotches large, but not extending into the white area. It is allied to the variety Chantinii, but differs in the character just mentioned, and we cannot ascertain to which of the innumerable varieties of P. insigne it belongs.

EXCHANGE OF DUPLICATES.

I AM pleased to see that this question has been again revived in the *Orchid Review* and trust that it may meet with a wide and generally approving response. In all such exchanges, there are certain difficulties to be overcome, one of which would be the considerable variety in the quality of the specimens offered under a particular name, especially unless they be portions of, or propagations from, certain well-known individual plants, which have obtained certificates. Another difficulty that must also arise in connection with such published lists is that of ascertaining the *bonâ fides* of correspondents whose names are not well known, but the advantages appear to me to greatly outweigh possible small drawbacks, and such a list would at any rate be the means of putting amateurs all over the country in direct communication with each other, and they could ascertain by correspondence more exact particulars concerning the plants offered. It is the Exchange lists, similar to the one suggested for the *Orchid Review*, that are found to be the most popular feature in some of the entomological and scientific magazines, and which largely tend to the maintenance and increase of their circulation.

FREDERICK J. HANBURY.

Upper Clapton.

In a recent issue of the *Orchid Review* I notice an opinion is invited as to the desirability of keeping a page where Orchid growers can set out duplicate plants which they have for exchange. I think there would be advantages in adopting such a course. The only danger I can see is in case it should be carried to an extent which might make the transaction too much a commercial matter and interfere with the trade, which would certainly be undesirable, but exchanges to a reasonable extent between private growers could hardly be prejudicial to the trade. AMATEUR.

As a subscriber and reader of your valuable journal, and an Amateur Orchid Grower, I think such an addition as suggested would prove to be a

boon, both to Professionals and Amateurs, and be the means of making the *Orchid Review* more popular. D. A. LAW.

I think the idea of setting apart a small space in the *Orchid Review* for exchange of duplicates &c., is very good, and would serve a useful purpose. I shall be glad to avail myself of it, and think a small charge for insertion would be gladly paid by anyone having duplicates to exchange. I hope to see in your next issue a notice to the effect that you have decided to try it, for a time at least. H. THORP.

Your correspondent's suggestion respecting a column for exchange or Sale of Duplicates will meet with the approval of all amateurs like myself, and if you decide to go on with it you will, I am sure, find it a success.
J. McC.

The foregoing letters have been received in response to the note given at page 351 of our November issue, and may be left to speak for themselves. It is clear that an Exchange column would be welcomed if the details can be arranged, and, subject to the following conditions, we are quite willing to make the experiment. We therefore invite amateurs to send lists of Duplicates and Desiderata, such lists not to exceed twenty names, and to be accompanied by the names and addresses of the senders (for publication), accompanied by a fee of one shilling to cover the cost. The lists will not be printed in the body of the work, and of course it will be understood that the Editor is not responsible for the correctness of the names or the condition of the plants offered. We hope this will suffice to give the matter a start: the conditions may be varied hereafter as circumstances require.

NOTES.

THE next meeting of the Royal Horticultural Society, and the last of the year, will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on December 13, when the Orchid Society will meet at the usual hour, 12 o'clock noon.

The following are the dates fixed for the Society's meetings during 1905:—January 3, 24; February 14, 28; March 14, 28; April 11, 25; May 9, 23; May 30, June 1 (Temple Show); June 20; July 4, 18; August 1, 15, 29; September 12, 26; October 24; November 7, 21; December 5, 19. The Orchid Committee will meet on each of these occasions. There are additional special shows of fruit, vegetables, &c., but these, of course, do not come within our special province.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on December 8th and 15th. The Committee meets at noon, and the exhibits are open from 1 to 3 p.m.

The dates at present announced for 1905 are:—January 5, 19; February 2, 16; March 2, 16, 30 (?); April 13, 27, and May 11, the latter being the date of the Annual General Meeting.

Mr. John E. Lager, in a recent issue of *American Gardening* remarks (p. 669), that in the collection of Henry Graves, Esq., Orange, New Jersey, U.S.A., at a recent visit he saw "a fine batch of the beautiful Cypripedium Insigne Sanderæ, fifty-seven fine plants, twenty-four of which were in full bloom. To the best of the writer's knowledge, there is no other place in the United States where such a number of this beautiful and choice Cypripedium can be seen in bloom at one time, and it is worth a long journey to see it in such numbers."

Mr. Henry Cooper has been appointed gardener and Orchid-grower to J. H. Grogan, Esq., Slaney Park, Baltinglass, County Wicklow.

An interesting Catasetum has just flowered in the collection of the Right Hon. J. Chamberlain, M.P., Highbury, Birmingham. Mr. Mackay remarks that it is a seedling, found growing on a block of wood with an Oncidium from the West Indies three years ago. It was taken off and planted in some sphagnum moss along with Vanda Batemanii, and should have flowered last year, but the spike was eaten off by cockroaches. It proves to be a light form of C. macrocarpum, having the petals very densely spotted with small purple dots.

THE ORCHID STUD BOOK.

THIS work is being printed as rapidly as possible, but we cannot yet fix the date of publication. We regret that the work of revising the records took longer than was anticipated, and it was impossible to commence printing until this was done. So many contradictory and imperfect records were found that it was most difficult to deal with, and at last a few have had to be omitted, as it is impossible to ascertain the parentage. The 1904 additions have been collected, but it seemed impracticable to print them in advance of the others, and it is proposed to include them as a supplement to the work, and to give the latter additions in the *Orchid Review* monthly, as already proposed. It has been a very difficult task, but we believe that our readers will find it invaluable when we can place it in their hands, and this shall be as early as possible.

ORCHID PORTRAITS.

BULBOPHYLLUM BARBIGERUM, Lindl.—*Rev. Hort. Belge*, 1904, p. 253, with plate.

COLAX JUGOSUS, Lindl.—*Bot. Mag.*, t. 7980, fig. 5.

CYPRIPEDIUM × KING EDWARD VII.—*Gard. Mag.*, 1904, pp. 772, 773, with fig.

DENDROBIUM BELLATULUM, Rolfe.—*Bot. Mag.*, t. 7985.

LÆLIA PRÆSTANS (var. with slaty-blue lip).—*Gard. Chron.*, 1904, ii., p. 354, fig. 161.

LÆLIA PRÆSTANS ALBA.—*Journ. Hort.*, 1904, ii., p. 409, with fig.

LÆLIA-CATTLEYA × CAPPEI, CHARLESWORTH'S VAR.—*Journ. Hort.*, 1904, ii., pp. 452, 453, with fig.

ODONTOGLOSSUM × ANDERSONIANUM CRAWSHAYANUM.—*Gard. Mag.*, 1904, p. 774, with fig.

ODONTOGLOSSUM CRISPUM VAR. XANTHOTES CHARLESWORTHI.—*Journ. Hort.*, 1904, ii., p. 391, with fig.

ONCIDIUM VARICOSUM ROGERSII.—*Journ. Hort.*, 1904, ii., pp. 432, 433, with fig.

ZYGOPETALUM CRINITUM, Lodd.—*Bot. Mag.*, t. 7980, fig. 4.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

P. W., Magdeburg. The hybrid from Cattleya Mendelii × C. granulosa du Buyssoniana is a beautiful form of C. × weedoniensis, described at page 318 of our seventh volume. That from C. Gaskelliana × Epidendrum vitellinum appears to be a false hybrid: at all events we fail to find any trace of the Epidendrum in the flower sent. A note unavoidably stands over till next month.

H. J. H. The hybrid from Cypripedium × Leeanum superbum × Charlesworthii is a form of C. × longwoodense.

C. E. F. Zygopetalum intermedium, a plant whose history will be found in our last issue.

F. W. Many thanks. We will take the matter in hand as soon as received.

J. W. Cypripedium × Pitcherianum often comes deformed, and we regret that we cannot suggest the cause or a remedy. Your flower is good in colour, and the flowers may not always come in this state.

W. S. (and several others). Unavoidably postponed till next month.

Photographs received, with thanks. P. W., W. S., R. C. D. (next month), W. T.

We must again request correspondents to attach labels to flowers so that they can be read without removing them. We have again several flowers in which the names are written on narrow strips of paper, and then rolled round and round the stalk, and tied there by cotton or worsted, giving much unnecessary trouble.

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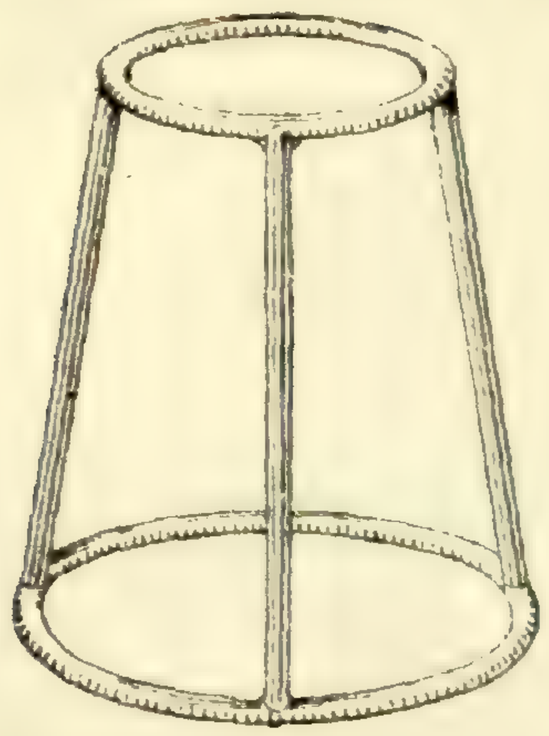

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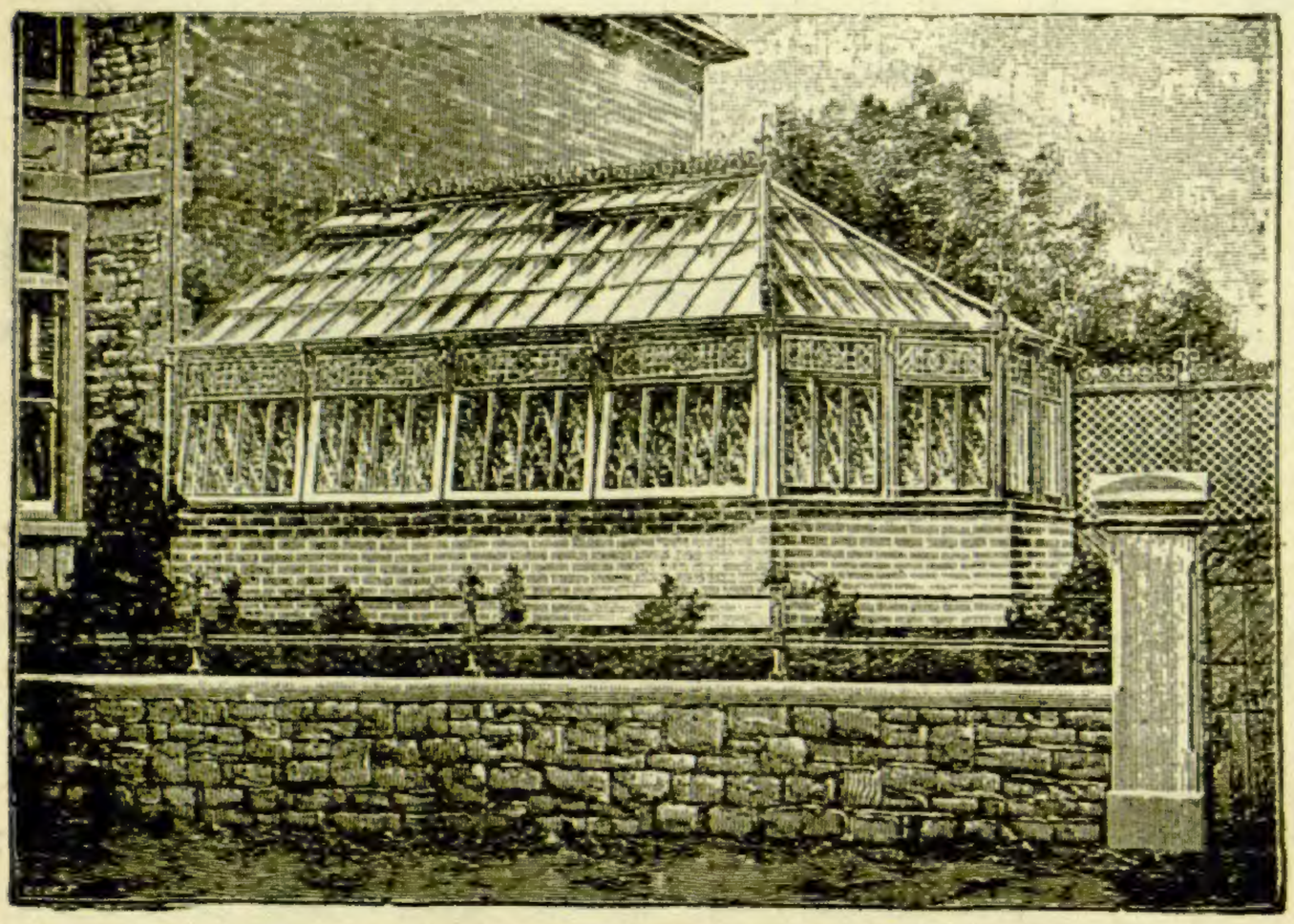

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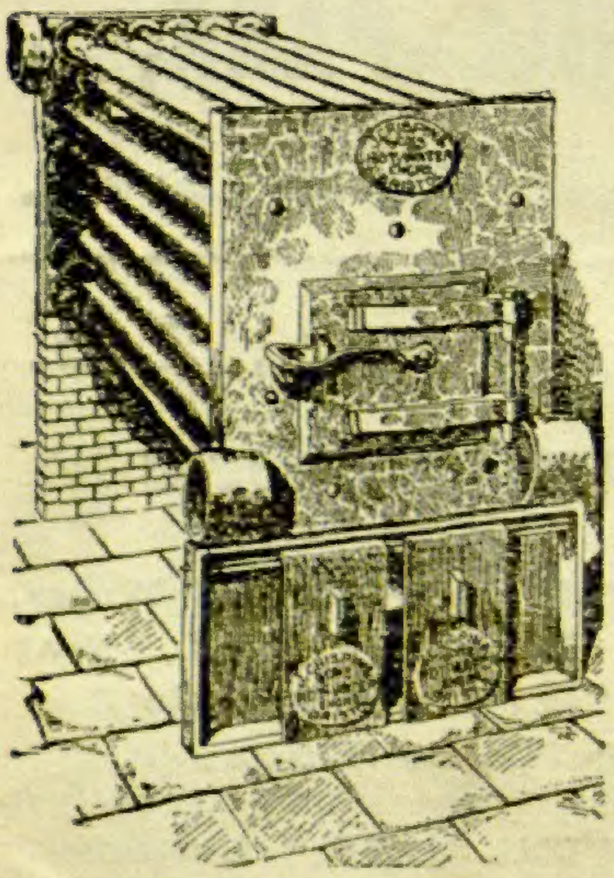

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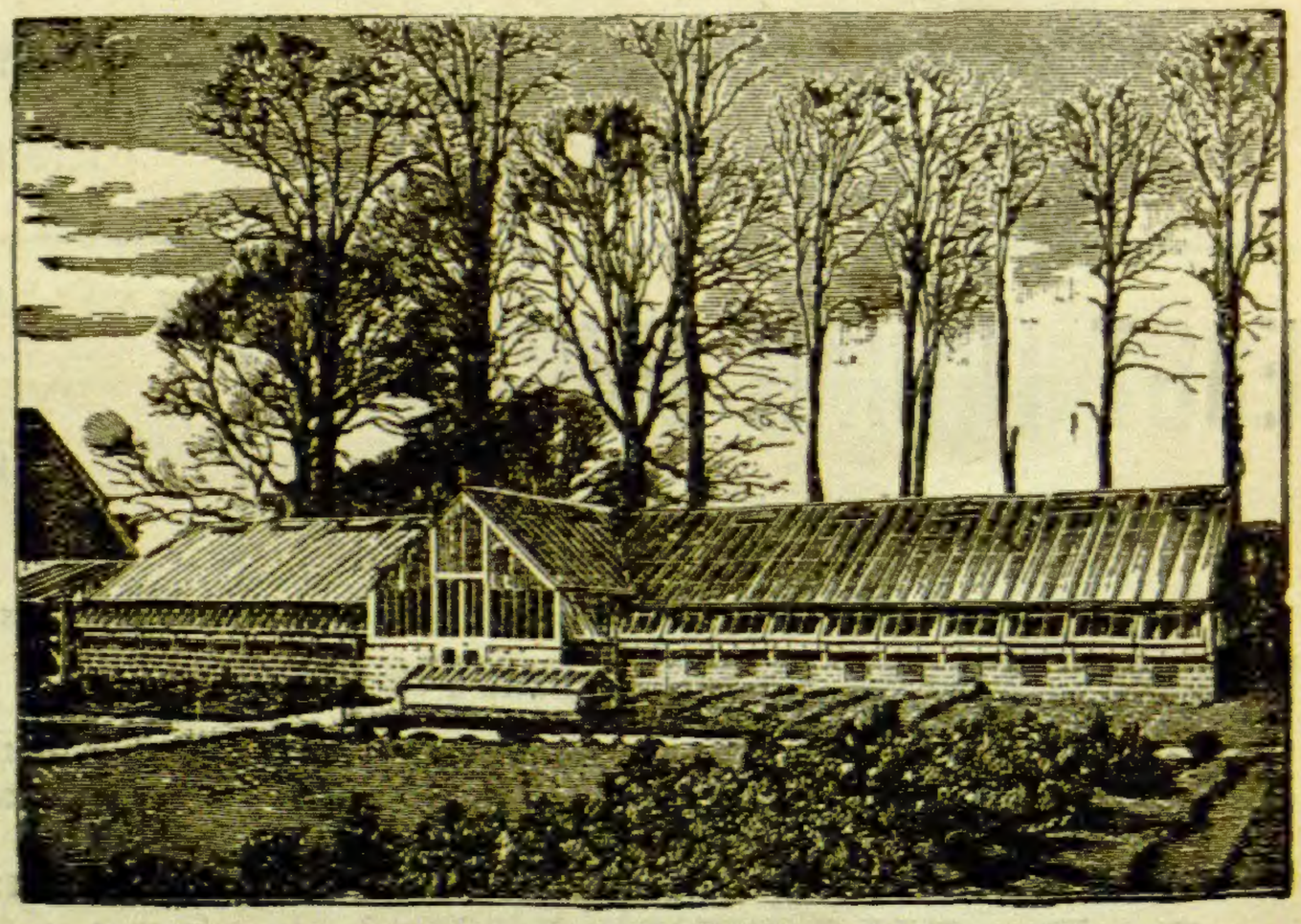

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